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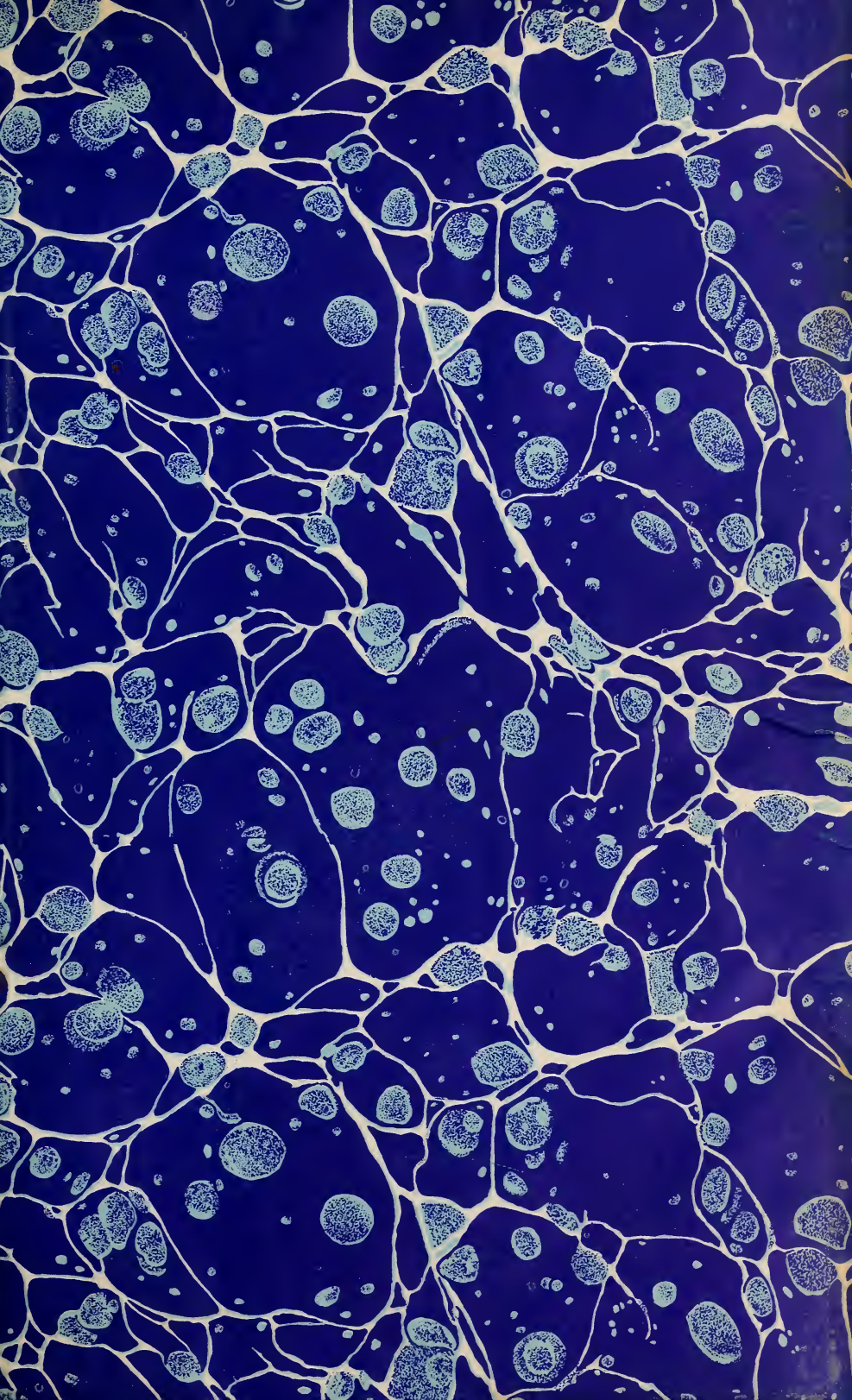
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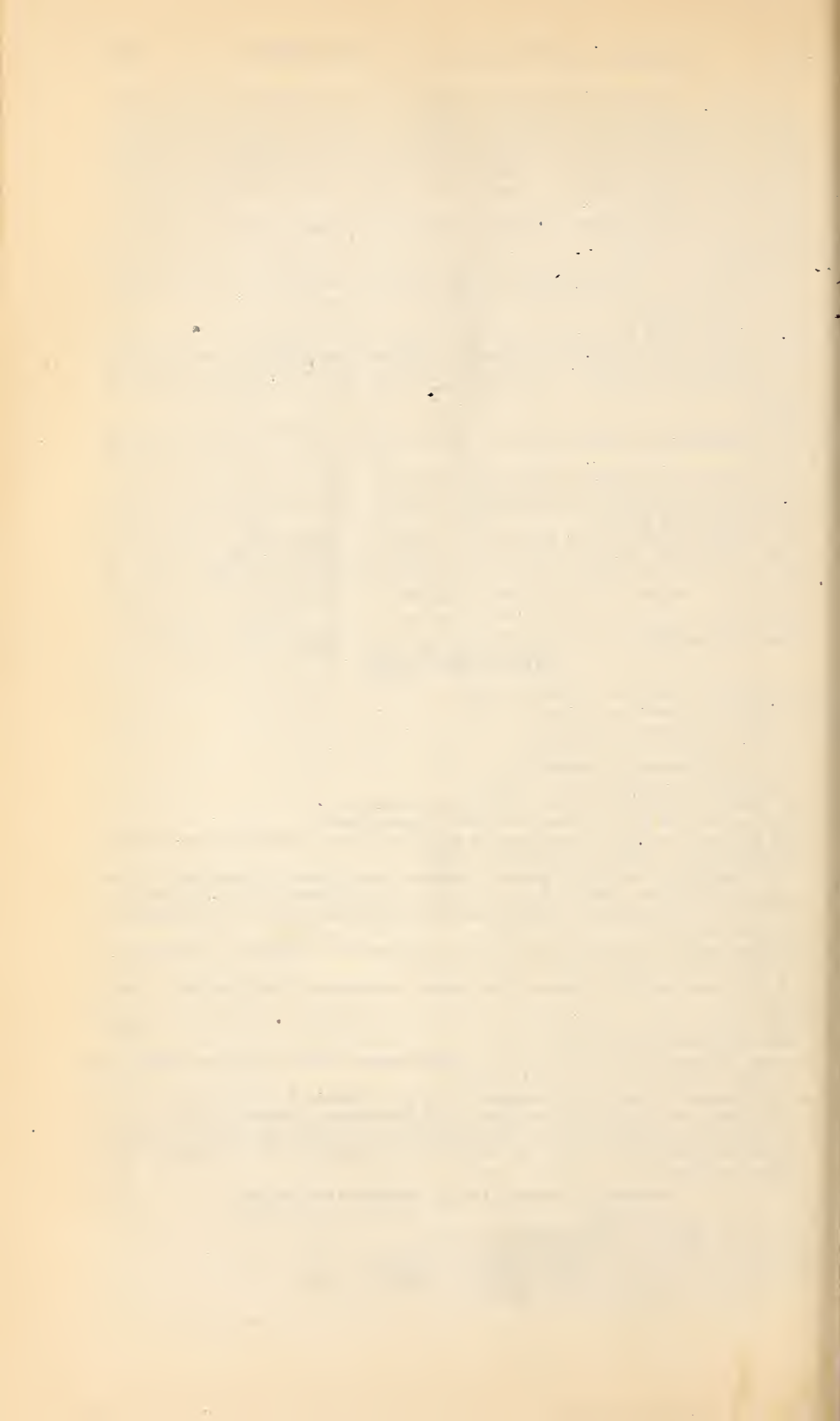
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United States Department of Agriculture

PLANT QUARANTINE AND CONTROL ADMINISTRATION

SERVICE AND REGULATORY ANNOUNCEMENTS OCTOBER-DECEMBER, 1929

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RECORD OF CURRENT WORK, JULY 1 TO DECEMBER 31, 1929

CHANGE IN LEADERSHIP OF PLANT QUARANTINE AND CONTROL ADMINISTRATION

C. L. Marlatt, who for more than a year has been filling the two positions of Chief of the Bureau of Entomology and Chief of the Plant Quarantine and Control Administration, retired at his request from the latter position on November 30, 1929, in accordance with a plan which was authorized some two years ago.

Lee A. Strong, assistant director of agriculture of the State of California, and formerly connected with the United States Department of Agriculture as a specialist in plant-quarantine work, was appointed as his successor. Mr. Strong, who was selected some months previously from a list of eligibles certified by the Civil Service Commission, took up his new duties on December 1.

THE MEDITERRANEAN FRUIT FLY

A rapid and decided improvement in the Mediterranean fruit-fly situation followed the intensive eradication measures carried out in Florida during the spring and summer. This work proved so effective that only one infested fruit was found between August 27 and the end of December.

This practical absence of reinfestation indicates that a continuation and intensification of the present methods of suppression can reasonably be expected to result in the complete extermination of the pest. While such eradication can not be considered to have already been accomplished, the fact that from 200 to 600 scouts employed by the department and large numbers of orchard owners and volunteers have been searching for infested fruit during this period shows that very pronounced progress has been made in this direction.

SURVEYS TO DETERMINE EXTENT OF INFESTATION

At the close of the last fiscal year the Mediterranean fruit fly had been found established in 15 Florida counties in addition to the discovery of several

adult flies at Jacksonville, in Duval County. During July and August, 1929, Alachua, Citrus, Hernando, and Pasco Counties were added to this list and a field infestation was found in Duval County at a considerable distance south-east of Jacksonville. Since the middle of August the known extent of infestation has, however, remained constant.

Table 1 shows the number of Florida properties found and reported infested with the fruit fly from the date of discovery to the end of 1929. As indicated in the footnote to the table the number of properties is shown as of the date of definite determination of the material, with the result that in every case the report for the month at the head of the column includes the field collections of the last day or two of the previous month but does not include the findings of the concluding days of the month named. This is especially significant with respect to August, during which month there were only 8 findings, the remaining 5 of the 13 listed having been found during the last two days of July.

TABLE 1.—*Number of Florida properties found and reported¹ infested with the Mediterranean fruit fly from the date of discovery to December 31, 1929*

County	Apr. 6- June 30	July	August	Septem- ber	October	Novem- ber	Decem- ber	Total
Alachua.....	0	1	0	0	0	0	0	1
Brevard.....	72	0	0	0	0	0	0	72
Citrus.....	0	0	1	0	0	0	0	1
Duval.....	0	1	0	0	0	0	0	1
Flagler.....	4	1	1	0	0	0	0	6
Hernando.....	0	4	0	0	0	0	0	4
Hillsborough.....	17	13	1	0	0	0	0	31
Lake.....	88	7	1	0	0	0	0	96
Levy.....	1	6	0	0	0	0	0	7
Marion.....	7	4	1	0	0	0	0	12
Orange.....	400	0	0	0	0	1	0	401
Osceola.....	27	2	0	0	0	0	0	29
Pasco.....	0	6	3	0	0	0	0	9
Pinellas.....	9	7	0	0	0	0	0	16
Polk.....	34	1	2	0	0	0	0	37
Putnam.....	18	4	2	0	0	0	0	24
St. Johns.....	8	1	1	0	0	0	0	10
Seminole.....	97	0	0	0	0	0	0	97
Sumter.....	1	0	0	0	0	0	0	1
Volusia.....	144	1	0	0	0	0	0	145
Total.....	927	59	13	0	0	1	0	1,000

¹ Properties in this summary and in Table 1 of S. R. A. No. 99 are listed as of the date of technical determination of the material rather than the date of collection. Five of the properties reported above under August relate to collections on July 30 and 31.

Surveys of other Southern States to determine the possibility of the establishment of infestation through shipments from Florida were continued. General headquarters were maintained at Atlanta, Ga., for this work, and large numbers of summer fruits were examined during the season in Alabama, Arkansas, Georgia, Louisiana, Mississippi, New Mexico, North Carolina, South Carolina, Tennessee, and Texas, the fruit from several million trees being inspected. These were largely peaches, plums, pears, apples, grapes, figs, and pomegranates. From 1 to 25 men were employed in each State on this work. In addition to the examination of the fruit in local groves, inspections were also made of shipments of Florida citrus fruit which had been shipped from that State prior to the discovery of the fruit fly and which was still to be found on the markets of the Southern States until midsummer. The results of all such surveys and inspections after the beginning of July were negative.

ERADICATION MEASURES

One of the most important features of the extermination program is the destruction of host fruits and vegetables on infested properties and the area within 1 mile of infestations. The clean-up crews carried out this work immediately upon the discovery of infestation on the premises. The continuing development of guavas and certain other summer fruits, the occasional ripening of off-season citrus, and the ripening of Surinam cherries and other fruits on wild lands made it necessary, however, to cover these areas repeatedly.

By the end of December 409 acres had been covered in this manner eleven or twelve times and the amount of clean-up work done on the 120,157 acres of citrus in the infested areas was equivalent to cleaning over 400,000 acres once, as will be seen from Table 2.

TABLE 2.—Approximate figures showing the progress of eradication measures, April 6 to December 31, 1929

Item	Apr. 6 to June 30	July	August	Sep- tember	October	No- vember	De- cember	Total
Citrus clean-up in infested areas: ¹								
Total citrus acreage.....								120,157
Cleaned first time.....acres	120,249	20,164		324	307	1,141	0	(²)
Total cleaned and re-cleaned 1 to 12 times.....acres	260,308	70,248	42,526	40,997	41,365	3,383	7,892	466,719
Citrus fruit destroyed.....boxes	578,500	3,391	3,658	11,896	9,542	855	705	608,547
Citrus clean-up outside of infested areas:								
Cleaned first time.....acres	0	0	0	0	31,775	14,790	8,655	55,220
Total cleaned and re-cleaned 1 to 9 times.....acres	0	0	0	0	31,775	63,681	63,329	158,785
Citrus fruit destroyed.....boxes	0	0	0	0	3,260	8,815	8,927	21,002
Noncitrus clean-up in infested areas:								
Total cultivated noncitrus acreage.....acres								160,775
Cleaned first time.....do	94,527	57,331		2,499	696	0	0	(²)
Total cleaned and re-cleaned 1 to 5 times.....acres	95,985	88,800	72,913	52,216	15,504	0	0	325,418
Noncitrus fruit destroyed.....boxes	0	7,139	15,004	3,682	760	0	560	27,145
Vegetables destroyed.....do	0	3,488	22,425	15,104	9,482	0	0	50,499
Noncitrus clean-up outside of infested areas:								
Cleaned first time.....acres	0	0	0	0	9,609	95	39	9,743
Total cleaned and re-cleaned 1 to 3 times.....acres	0	0	0	0	9,609	110	275	9,994
Clean-up of uncultivated lands in infested areas:								
Total acreage uncultivated lands.....acres								803,945
Cleaned first time.....acres	0	145,987		107,422	126,298	197	0	(²)
Total cleaned and re-cleaned 1 to 5 times.....acres	0	192,511	372,510	194,631	240,695	197	0	1,000,544
Clean-up of uncultivated lands outside of infested areas:								
Cleaned first time.....acres	0	0	0	0	1,415	641	0	2,056
Total cleaned and re-cleaned 1 to 3 times.....acres	0	0	0	0	1,415	999	0	2,414
Clean-up personnel, end of month:								
Inspectors.....	³ 52	71	⁴ 100	63	59	36	41	-----
Foremen.....	³ 258	397	⁴ 493	345	199	174	66	-----
Laborers.....	³ 2,172	3,216	⁴ 3,658	2,629	455	175	152	-----
Spraying in eradication area:								
Area sprayed, including infested areas.....acres	362,665	367,882	525,381	599,149	403,488	84,676	8,050	2,351,291
Materials used:								
Sugar.....pounds	780,203	367,470	285,485	420,480	368,849	25,202	2,325	2,250,014
Molasses and sirup.....gallons	53,464	66,096	85,595	83,122	67,670	4,865	426	361,238
Lead arsenate.....pounds	89,386	56,318	19,029	66,653	55,350	3,941	310	290,987
Spraying personnel, end of month—								
Inspectors.....	³ 14	21	(⁴)	29	28	24	18	-----
Foremen.....	³ 59	88	(⁴)	109	100	25	1	-----
Laborers.....	³ 471	683	(⁴)	719	469	30	1	-----

¹ "Infested areas" include all areas or zones designated at any time as "infested," whether or not they had been released at the time of the report.

² Total omitted, as records are incomplete.

³ As of June 30, 1929.

⁴ Spraying and clean-up personnel reported together for August.

Early in October the clean-up work was extended to that part of the eradication area outside of but adjacent to the infested areas, and 55,220 acres of citrus, 9,743 acres of noncitrus, and 2,056 acres of uncultivated lands outside such infested areas had been cleaned up in this manner by the close of the calendar year.

In order to eliminate the flies remaining in this district and to prevent their migrating elsewhere a poison-bait sirup was used in the groves and on uncultivated lands. This material was applied at frequent intervals, so that the total extent of the spraying, which was confined largely to the approximately 1,000,000 acres of citrus, noncitrus, and uncultivated land in the infested areas was equivalent to spraying 2,351,291 acres once. A total of 596 acres had been covered nineteen times and over 130,000 acres more than ten times.

The spraying and clean-up activities are summarized in Table 2. The figures given in that table are only approximate, as the field staff was not sufficiently organized during the first weeks of this undertaking to avoid some duplications and similar discrepancies.

Early in July it became necessary to reconsider the entire eradication program. The tremendous increase in the infested area as determined from week to week made it apparent that to carry out the original program and particularly to provide for the removal of all host citrus fruits of the developing crop in the infested areas would involve enormous expenditures for labor, administration, and compensation of the growers. The change in policy resulting from this situation was described as follows by Doctor Marlatt at the hearing on the Agricultural Department appropriation bill for 1931 before the subcommittee of the House Committee on Appropriations:

The magnitude of the problem as thus developed, together with its nation-wide concern, led the Secretary of Agriculture to seek the advice, both as to the work as above outlined and as to the possibility of eradication, of leading specialists selected from various parts of the country.

The committee thus appointed consisted of Vernon Kellogg, permanent secretary, National Research Council, Washington, D. C.; H. A. Morgan, president, University of Tennessee; T. P. Cooper, dean, College of Agriculture, director of extension work, Lexington, Ky.; Victor R. Gardner, director State experiment station and professor of horticulture, State College, East Lansing, Mich.; T. J. Headlee, professor of entomology, Rutgers College, New Brunswick, State entomologist of New Jersey and entomologist of State experiment station; G. A. Dean, head, department of entomology, State Agricultural College, and entomologist, State experiment station, Manhattan, Kans.; and H. J. Quayle, professor of entomology, University of California, and entomologist of citrus experiment station, Riverside.

These specialists submitted a report emphasizing their belief that eradication was not only practicable but an economic necessity. They further recommended the very considerable enlargement of the work now under way and the modification of regulations which, in their belief, would permit, under a system of sterilization and without risk of spreading the pest, the interstate movement of citrus fruits from areas which previously had been considered infested.

At the time of the visit of this committee to Florida the research unit of the Bureau of Entomology of the department cooperating with the Plant Quarantine and Control Administration had just completed work which indicated the practicability of such control of the larvae and eggs in the fruit either by refrigerating to 28° F. or by heating to 110°. The committee stated that such sterilization of whole fruit could, in their judgment, be accepted as a substitute for the destruction of the mature crop in the formerly infested areas and thus do away with the great cost (\$6,300,000) already indicated for the removal of all citrus and other fruit of the coming crop in such areas, as well as the necessity for the reimbursement from the National Treasury to the growers of such fruit.

After careful consideration of the report of these specialists, it was adopted, and the regulations under the fruit-fly quarantine were revised, effective September 1, to carry out the revised and enlarged program.

QUARANTINE REGULATIONS

The fruit-fly-quarantine regulations in effect at the beginning of the fiscal year were slightly modified during July and early August to lighten the restrictions on the movement of grapes and sour limes and to remove string beans from the list of host fruits and vegetables.

This was followed on August 20 by a general revision of the quarantine and regulations to carry out the recommendations of the committee of specialists, as stated. Subsequent to this revision, the regulations were modified or interpreted and amplified by a number of administrative instructions issued as circulars of the P. Q. C. A. series. Of these, 5 related to sterilization; 4 to destinations, diversions, and dates of shipment, and the containers in which products could be moved; 2 to the designation of infested and eradication areas; 1 to the movement of celery; and 1 to the clean-up methods on properties inside the eradication area. Such instructions are printed in full in the Service and Regulatory Announcements of the administration.

The most far-reaching of the Federal quarantine modifications was the one issued on November 18, 1929, under which sterilized host fruits and certain vegetables were allowed to be shipped from Florida to the Southern and Western States. From May 16 until November 20, 1929, inclusive, the move-

ment of host fruits and vegetables from Florida (except sour limes produced in Dade and Monroe Counties) into the following States and Territory by rail, express, mail, or other means, was prohibited: Alabama, Arizona, Arkansas, California, Georgia, Idaho, Louisiana, Mississippi, Nevada, New Mexico, North Carolina, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Utah, Washington, and the Territory of Porto Rico.

Under Administrative Instructions P. Q. C. A. 254, sterilized host fruits were authorized movement into the States named for the period from November 21, 1929, to January 31, 1930, inclusive (this was later extended to February 28, 1930). Green tomatoes were also authorized movement into this southern and western area in the same order.

Supplementing the Federal regulations, an intrastate quarantine has been maintained by the State of Florida under the authority of the State plant board. Subsequent to the six editions of these State regulations reported in S. R. A. 99, eight additional modifications, revisions, and amendments have been issued by that board or by Chairman P. K. Yonge, acting for it, dated July 15, August 12, September 16, October 14, November 16, November 20, December 3, and December 9, respectively.

QUARANTINE ENFORCEMENT

From the time the State and Federal Mediterranean fruit-fly quarantines were issued in April the quarantine organization has exercised supervision over all packing, storage, and processing plants in the entire State, to see that these plants were operated in a sanitary manner and in conformity with State and Federal quarantine requirements, to eliminate any possibility of fruit-fly infestation developing on the premises, and to assist the field scouts in the determination of any infestations which might be existing in the State. So far as possible, the packing plants also acted as units of certification, and the permits for intrastate and interstate movement were issued to them.

The inspection of plants of this kind was organized by districts, each inspector having a number of packing houses to supervise. The number of citrus-packing houses reported in operation in the eradication area at the close of 1929 was 248, with a capacity for the year of 31,303,000 boxes. Outside of the eradication area there were operating under similar supervision 70 citrus-packing houses, with a total capacity of 10,486,000 boxes. There were also 138 vegetable-packing houses operating in the State and 20 fern-packing houses. By the end of December 17,361 different inspections had been made of these packing houses. There are in the State 146 cold storages with a total capacity of 811,129 boxes, and 320 inspections have been made of these cold storages. Processing and canning plants numbered 70, and 674 inspections were made of them. Four packing houses and two canning plants were temporarily closed on inspectors' orders at various times during the 6-month period on account of minor violations. All but one of these had been reopened by the end of December.

Sterilization by heat was carried on in the Florida packing plants, while the cold-sterilization method was operated by cold storages in that State and elsewhere. The latter was the first method authorized, but the plan of sterilizing by heat proved equally satisfactory from the standpoint of the department, and much less expensive, and, consequently, was afterwards employed to a greater extent. Heat sterilization was used only within the State of Florida, and during the 6-month period 2,099 cars were so treated, 1,679 of these during the month of December.

Cold sterilization was carried out both in Florida and by special arrangement in designated packing plants in the Northern States. Ten such northern plants sterilized one or more cars, but all of them had discontinued operation by the middle of December, except one at Detroit. During the 6-month period 95 cars were given the cold-sterilization treatment in Florida, and 126 were so treated in the North (Louisville, 5; Cincinnati, 53; St. Louis, 4; Chicago, 28; Detroit, 32; Washington, D. C., 2; Jersey City, 1; and Philadelphia, 1.)

The quantities of material for which permits were issued for interstate and intrastate shipments from Florida packing houses, cold storages, dealers, growers, and noncommercial shippers and the number of quarantine violations intercepted in transit at Jacksonville are shown in Tables 3 and 4.

TABLE 3.—Quantities of host fruits, vegetables, and nursery stock certified under the Mediterranean fruit-fly quarantine, May 1 to August 31, 1929

Product certified	May 1 to June 30	July	August	Total
Citrus fruits.....carloads.....	7, 237	30	5	7, 272
Noncitrus fruits.....do.....	22	8	0	30
Vegetables.....do.....	864	12	1	877
Less than car-lot shipments of host fruits, vegetables, and nursery stock.....boxes.....	42, 202	3, 428	3, 293	48, 923

TABLE 4.—Quantities of host fruits, vegetables, and nursery stock certified, and violations intercepted, under the Mediterranean fruit-fly quarantine, September 1 to December 31, 1929

Item	Septem- ber	October	Novem- ber	Decem- ber	Total
Certified material:					
Interstate shipments in car lots—					
Grapefruit.....cars.....	569	1, 892	1, 527	1, 334	5, 322
Oranges and tangerines.....do.....	5	288	2, 565	4, 443	7, 301
Mixed.....do.....	0	158	795	1, 474	2, 427
Total.....do.....	574	2, 338	4, 887	7, 251	15, 050
Noncitrus fruits.....do.....	0	2	0	0	2
Vegetables.....do.....	0	24	187	243	454
Sterilization of citrus by—					
Heat method.....do.....	0	44	376	1, 679	2, 099
Cold method (Florida only).....do.....		1 51	12	32	95
Intrastate shipments in car lots—					
Grapefruit.....do.....	0	90	51	94	235
Oranges.....do.....	0	0	0	19	19
Vegetables.....do.....	0	0	0	2	2
Intrastate shipments, highway movement—					
Citrus.....trucks.....	0	195	1, 263	1, 941	3, 399
Interstate shipments, less than car lots by ex- press—					
Citrus.....boxes.....	801	1, 786	4, 660	84, 483	91, 730
Noncitrus.....do.....	4, 641	1, 286	331	530	6, 788
Vegetables.....do.....	153	2, 706	11, 013	26, 548	40, 420
Nursery stock, plants with roots.....do.....	1, 633	7, 293	4, 163	3, 429	16, 518
Violations:					
Shipments intercepted at Jacksonville and re- turned to shipper as violations of regulations—					
Without permit.....boxes.....				366	-----
Improper permit.....do.....				114	-----
Not standard container.....do.....				48	-----
Ripe tomatoes.....do.....				8	-----
Concealed shipments.....do.....				3	-----
Express shipments to certain Southern States for which no car-lot service was available					
.....boxes.....				83	-----

¹ September and October combined.

CONTROL OF VEHICULAR MOVEMENT

Road stations have been maintained since the first discovery of the infestation in Florida to prevent fruit of any kind from being carried outside the eradication area or interstate from any part of Florida. The lines at which such patrols were maintained have been changed from time to time as new points of infestation were discovered. After the quarantine revision of September 1 was issued, however, no new infestations were found outside the general eradication area and three quarantine lines have since then been maintained and have remained stationary. One of these is at the southern boundary of the eradication area extending from Hillsborough through Polk to southern Brevard County to govern southbound movement into the southern uninfested sections of Florida; a second extends along the northern boundary of the eradication area from Citrus to Duval County, to control northbound

intrastate movement, and a third is located along the northern boundary of Florida. Inspection posts on the first two of these lines were maintained under the authority and direction of the State plant board, while the third was operated under Federal authority and direction from headquarters at Atlanta.

On the Federal line controlling northbound interstate movement, 11 stations were maintained in Alabama and 19 in Georgia. In addition, 7 automobile patrols were employed to control movement on the less-traveled roads. On the north boundary of the eradication area from 20 to 24 such posts have been maintained and on the southern boundary from 11 to 15.

The number of vehicles inspected and the number found to be carrying articles moving in violation of quarantine are shown in Table 5. This table also indicates the number of violations intercepted in passengers' baggage on trains.

TABLE 5.—*Summary of inspection, under Mediterranean fruit-fly quarantine, of vehicles and baggage leaving the eradication area*

Item	July	August	September	October	November	December	Total
Eradication area border patrol:							
Vehicles inspected.....number..	357,962	359,214	394,670	354,897	359,248	462,503	2,288,494
Vehicles in which fruit was found.....number.....	3,331	3,077	2,975	3,655	4,171	5,204	22,413
Baggage inspected, highway movement.....pieces.....	238,196	215,267	248,193	239,658	252,818	352,456	1,546,588
Baggage in which fruit was found, highway movement.....pieces.....	887	670	767	798	691	1,302	5,115
Baggage inspected, train movement.....pieces.....	99,349	102,273	103,030	112,034	111,079	139,344	667,109
Baggage in which fruit was found, train movement.....pieces.....	531	449	395	450	567	903	3,295
Georgia-Florida border patrol:							
Vehicles inspected.....number..	53,908	54,817	48,201	47,282	48,150	51,988	304,346
Vehicles in which fruit was found.....number.....	2,279	2,808	2,060	1,836	1,849	1,987	12,819
Alabama-Florida border patrol:							
Vehicles inspected.....do.....	71,289	80,883	60,714	62,423	53,037	59,840	388,186
Vehicles in which fruit was found.....number.....	955	1,381	1,105	1,116	1,036	1,145	6,738

The regulations under which the destination carrier is required to clean at the unloading point cars used in the transportation of Florida host fruits and vegetables were enforced largely at the important railroad diversion points of Potomac Yards, Cincinnati, Louisville, St. Louis, Chicago, and Detroit. Supplementing this work, employees of the administration at Savannah and Waycross, were able to inspect a considerable number of cars, some of which had moved south through the switching points at which inspectors were not maintained. As a result of such inspections, 14 cars were intercepted dirty in October, 61 in November, and 340 in December. The number of interceptions in December, while small in comparison with the more than 8,000 cars moving during that month, indicated such a degree of negligence on the part of railway employees that conferences were held the last week of the month with the operating officers of the leading railroads both of the northeastern territory and of the South, and methods were worked out to improve the situation.

Restrictions on reshipments from the territory northeast of and including Maryland and Pennsylvania to points south and west of that area and from the Northern States in general to the South were enforced at transit-inspection points and by visiting the wholesale and retail grocery stores along the quarantine lines referred to. These requirements were on the whole very well observed, although the number of men assigned to the enforcement of these restrictions was not large enough to prevent completely local transportation of small quantities of Florida host fruits and vegetables from points just north and east of the dividing lines to near-by districts within the same trade territory.

APPROPRIATIONS

As stated in the Service and Regulatory Announcements for April-June, 1929, emergency funds of \$50,000 were released by the State of Florida immediately upon discovery of the Mediterranean fruit fly and by transfer,

\$40,000 was promptly made available by the Department of Agriculture for preliminary work. This was followed by congressional action, making \$4,250,000 immediately available for the control and eradication operations. An additional amount of \$1,290,000 was further made available by joint resolution of Congress in December.

PREVENTION OF SPREAD OF GIPSY MOTH

NEW INFESTATION FOUND ON LONG ISLAND

Early in December, 1929, a gipsy-moth infestation was discovered at Roslyn, Long Island, N. Y. All available personnel was immediately transferred to that area to determine the limits of spread and to undertake the prompt eradication of the insect at that point.

The center of the infestation was in the village of North Roslyn near several nurseries. By shortly after the close of the year several thousand egg clusters had been found in this village and the territory embracing about 3 miles surrounding it. Eradication operations were complicated by the large amount of miscellaneous materials that were piled in the back yards. The inspection of this material and treating the egg clusters had been started by the end of December in cooperation with the conservation department of the State of New York.

Records of the past shipments of the nurseries concerned are being checked, but it is believed that such shipments have been confined largely to Long Island. Scouting will be undertaken around all points to which nursery stock has been consigned from this locality.

GIPSY-MOTH DEFOLIATION IN NEW ENGLAND AGAIN SERIOUS

The forest acreage defoliated in the Northeastern States again shows a substantial increase over the figures for the previous year. Over half a million acres suffered economic damage, more than half the leaves being stripped from the trees throughout two-thirds of the territory attacked. New Hampshire forests suffered most severely. The infestation in the vicinity of Milford, N. H., was so heavy that the inspector stationed there for the certification of stone and quarry products required special assistants, as an unusually large number of egg clusters, larvæ, and pupæ were found on material offered for shipment during the summer. All egg clusters were creosoted and all infestation entirely removed before certificates were issued. The data secured in a survey of the situation is summarized in Table 6.

TABLE 6.—*Areas defoliated by the gipsy moth in 1929*

State	Defoliation		Total area attacked
	1 to 50 per cent	50 to 100 per cent	
	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>
Maine.....	7,962	7,225	15,187
New Hampshire.....	135,728	305,117	440,845
Massachusetts.....	27,394	67,684	95,078
Vermont.....	0	0	0
Connecticut.....	0	0	0
Rhode Island.....	23	0	23
Total.....	171,107	380,026	551,133

OTHER ACTIVITIES

The outlook for early completion of the total eradication of the New Jersey gipsy-moth infestation continues favorable. The one outbreak discovered in that section during the previous fiscal year has been attacked vigorously by spraying and by creosoting the egg masses. During July daily examinations were made at and around the infested locations in Piscataway Township, Middlesex County, with the result that 16 larvæ and 12 pupæ were found and destroyed. A wide belt around the infested locality was scouted during the summer, but no further signs of the insect were found.

The barrier zone, a strip about 30 miles wide east of the Hudson River, is becoming more difficult to maintain free from the gipsy moth as the infestation

east of the zone increases. Scouting in this strip for the season was started in July and by the close of the year gipsy-moth larvæ, pupæ, or egg clusters had been found in the towns of New Marlboro, Sandisfield, Otis, Mount Washington, and Becket, Mass.; Canaan, Cornwall, North Canaan, Norfolk, Salisbury, Sharon, and Kent, Conn.; and Hillsdale, N. Y. The work in New York State was carried out by the State department of conservation.

Details of the inspection and certification work carried out in connection with quarantine enforcement during the last half of the calendar year 1929 are shown in Table 7.

TABLE 7.—*Inspections under Federal gipsy-moth quarantine, July 1 to December 31, 1929*

Month	Forest products			Stone and quarry products			Nursery stock			Other evergreens		
	Shipments inspected	Shipments infested	Larvæ, pupæ, or egg masses	Shipments inspected	Shipments infested	Larvæ or egg masses	Shipments inspected	Shipments infested	Egg masses	Shipments inspected	Shipments infested	Egg masses
July.....	1,642	4	7	27,642	12	142	182	0	0	386	0	0
August.....	1,847	5	25	19,969	5	8	578	0	0	590	0	0
September..	1,404	5	17	31,355	61	111	1,830	0	0	691	0	0
October.....	2,135	6	244	34,722	29	81	3,649	0	0	893	0	0
November..	1,741	2	9	30,695	12	42	1,575	0	0	6,856	0	0
December..	2,346	0	0	15,039	4	6	1,902	0	0	8,229	0	0
Total....	11,115	22	1302	159,422	123	2390	9,716	0	0	17,645	0	0

¹Not including six egg clusters found in October and five in December on car stakes to be used with shipments of forest products.

²Not including egg clusters found on materials which were to be used in crating pieces of finished granite or on car stakes to be used in connection with shipments of granite as follows: 4 in August, 55 in September, 53 in October, 3 in November, and 2 in December.

In addition to the figures given in Table 7, inspectors of the State and Federal Departments of Agriculture in cooperation examined and certified a total of 624 shipments of nursery stock and farm products originating in the territory of New Jersey regulated under a gipsy-moth quarantine issued by that State. No infestation was discovered in these shipments.

As incidental features of the gipsy-moth-control operations surveys have been conducted to determine the present distribution of the satin moth, the brown-tail moth, and larch canker. The first named is discussed later. The brown-tail moth is not sufficiently abundant to cause serious injury except in certain sections in the eastern part of the infested territory. In the lightly infested sections this insect is not seriously abundant on account of the control measures practiced and the effective work of imported natural enemies, disease, and adverse climatic conditions. The satin moth now has a greater distribution than the brown-tail moth. As a result of the search for larch canker, a number of suspected specimens were referred to the Bureau of Plant industry for definite determination.

APPROPRIATIONS

The agricultural appropriation bill for the fiscal year 1931 which is now pending carries an item for the control and prevention of spread of the gipsy and brown-tail moths of \$647,500. This may be compared with the amount of \$567,500 which is available for the current fiscal year, to which may be added a deficiency item of \$100,000 if the pending first deficiency bill passes.

SATIN MOTH SPREADS

The administration, in connection with gipsy-moth-quarantine enforcement, made surveys during the summer to determine the present extent of satin-moth infestation in New England. The latter insect was found to have spread extensively, especially to the northward in Maine. In the Pacific Northwest it is still unknown south of Lewis County, Wash.

The Federal quarantine prohibiting the interstate transportation of poplar and willow trees from the infested area was accordingly amended on October

31, adding 38 towns in Maine, 3 towns in New Hampshire, and 5 towns in Massachusetts, a total of 1,871 square miles, to the area designated as regulated to prevent the spread of this insect.

EUROPEAN CORN-BORER-QUARANTINE ENFORCEMENT

GENERAL STATUS OF INFESTATION

The European corn-borer population of parts of the infested area increased somewhat during 1929, but the general status of this pest remained about the same. Except for a few fields in northern Ohio, commercial damage was limited to small sections of eastern Massachusetts and Rhode Island.

The spread to new regions through the flight of the moths continued at about the same rate as in previous years, the insect moving west in northern Indiana about 10 miles, and south in eastern Indiana, southern Ohio, and northern West Virginia to the width of from one to two counties. Throughout central Pennsylvania no change in the extent of infested territory was discovered, although in extreme eastern Pennsylvania, northern New Jersey, and western Connecticut the borers were found in a number of scattered townships in previously uninfested districts.

The 2-generation strain of the borer spread westward in Connecticut, central Massachusetts, and New Hampshire, and eastward in southern Maine to greater distances than before. Along the coast of Maine the borer was found about 100 miles farther east than heretofore, reaching the eastern edge of Hancock County.

Taking the Great Lakes area as a whole the highest average infestation thus far observed in any year was in 1927, when it reached an average of about 10 larvæ per 100 plants. This was followed by a reduction in 1928 to an average of less than 7, and a slight increase in 1929 to slightly less than 8. For the purpose of comparison, it will be recalled that commercial damage begins with about 500 larvæ per 100 plants. In the Michigan infested area the average number of larvæ per 100 plants was reduced from about 27 in 1927 to 11 in 1928 and 9 in 1929. In Ohio there has been a slight increase from about 4 in 1927 to 6 in 1928 and between 10 and 11 in 1929. In Pennsylvania the degree of infestation was reduced from over 10 larvæ per 100 plants in 1927 to less than 1 in 1928 and 1929. In Indiana the infestation never reached an average of 1 larva per 100 plants. In western New York the greatest average infestation reported was in 1926, with 7 borers per 100 stalks. This was reduced in 1927 to less than 4 and increased to 5 in 1928 and 6 in 1929. In eastern New York, where the infestation is of somewhat longer standing, the surveys showed over 29 larvæ per 100 plants in 1927, which was reduced to somewhat over 14 in 1928 and 16 in 1929, still far below commercial damage. In western New England surveys which were conducted in 1929 for the first time showed less than 1 borer per 100 stalks in western Massachusetts and less than 4 in western Vermont.

In the 2-generation area in southeastern New England, where some commercial loss is being experienced, the infestation surveys in cornstalks in urban gardens showed infestations on individual premises ranging from 479 in East Providence to 936 in Newport, R. I., and from 191 in Lawrence to 1,016 in Newton, Mass. In the western half of Rhode Island and that part of Massachusetts west of the eastern boundary of Worcester County the degree of infestation is much less.

The figures given are based on fairly intensive inspections conducted each year in the latter part of the season to determine the extent of increases or decreases in corn-borer infestation throughout the area, five representative fields being chosen in the townships studied, and 500 plants being examined in each of five fields in the township. Owing to the fact that the area is increasing in size, the figures given represent in part different townships. To determine more accurately the extent to which the borers may be decreasing or increasing in those areas in which this insect has been present for a number of years, the results of this work in identical townships in successive years may be compared. Data from 431 townships surveyed in the Great Lakes area in 1928 and the same townships surveyed in 1929 show a reduction in the number of borers per 100 plants in Michigan from 15.88 to 13.99 and in western New York from 7.58 to 7.19. Slight increases were observed in Indiana from 0.34 to 0.98, in Ohio from 11.21 to 16.42, and in Pennsylvania from 1.03 to 1.89. The highest township infestation in Michigan

reported in 1929 was Ash Township, Monroe County, with a borer population of 178 borers per 100 stalks. In Ohio the largest number found in the survey was in Oregon Township, Lucas County, with 263 borers per 100 stalks. These two townships, together with Allen Township, Ottawa County, Ohio, where the degree of infestation is substantially the same, represent the nearest approach to commercial damage in the Great Lakes area.

Similar comparisons in eastern New York show an increase in the number of borers per 100 plants of from 18 in 1928 to 22 in 1929.

In the 2-generation area the direct comparison of 95 townships surveyed in 1928 with the same townships surveyed in 1929 show an increase in the number of borers per 100 plants from 9.95 to 35.08 in Connecticut, from 186.08 to 213.84 in Massachusetts, and from 7.63 to 25.9 in New Hampshire, as well as decreases from 4.9 to 3.39 in Maine and from 189.88 to 174.49 in Rhode Island. The highest average township infestation shown in the direct comparison reports was in Belmont Town, Middlesex County, Mass., where there were 983.33 borers per 100 stalks in 1929, as compared with 353.17 in 1928. Similar increase is noted in the town of Warwick, Kent County, R. I., where 746.1 borers per 100 plants were found in 1929, as compared with 503.56 in 1928. In a considerable number of cases in the 2-generation area, however, material decreases were noted, some of the most marked being in Barnstable and Dukes Counties, Mass., and Bristol County, R. I.

QUARANTINE REGULATIONS REVISED

On December 16, 1929, the corn-borer-quarantine regulations were revised to add a total of 655 townships to the regulated area, of which 209 were in the 2-generation and 446 in the 1-generation area. In addition seven townships in New Hampshire which were formerly in the 1-generation area were transferred to the 2-generation area.

At the same time changes were made in the requirements governing the interstate movement of the restricted articles under which the limitation on the quantity of cleaned shelled corn which could be shipped without certification or other restriction was placed at 25 pounds to the shipment instead of 2 pounds, as before; free movement of sweet corn on the cob from New York City during May and June was authorized and the special restrictions applying to the entry of restricted articles into the regulated areas in Maine was removed. The full revision will be found on a later page.

INSPECTION AND CERTIFICATION OF RESTRICTED ARTICLES

The quantities of cleaned shelled corn, cut flowers, and plants certified in connection with the enforcement of the European corn-borer quarantine are shown in Tables 8 and 9. Ear corn originating in the regulated areas is not allowed to be moved to outside points. Shelled corn may be certified on the basis of the repeated inspection of the premises and of the equipment with which it is cleaned. The certification requirements on shelled corn are the same in both the 1-generation and 2-generation areas. The restrictions on the movement of cut flowers and certain plants are, however, limited to the 2-generation area, as indicated in Table 9.

TABLE 8.—*Shelled corn certified under the European corn-borer quarantine, July 1 to December 31, 1929*

Month	Central area ¹		Western area	
	Corn for feed	Seed corn	Corn for feed	Seed corn
	<i>Bushels</i>	<i>Pounds</i>	<i>Bushels</i>	<i>Pounds</i>
July.....	141,920	2,418	195,977	2,949
August.....	247,738	1,529	153,136	66
September.....	403,912	0	162,842	0
October.....	345,611	0	107,977	18,311
November.....	123,185	0	203,553	35,823
December.....	299,576	0	417,293	136,476
Total.....	1,561,942	3,947	1,240,778	193,625

¹ That part of the 1-generation area east of the western border of Pennsylvania.

TABLE 9.—*Certification of cut flowers and plants in 2-generation area (eastern New England) July 1 to December 31, 1929*

Month	Cut flowers and entire plants certified	Beans, celery, beets, and rhubarb	Specimens collected			
			Egg clusters	Larvæ	Pupæ	Adults
	<i>Number</i>	<i>Bushels</i>				
July.....	289, 447	23, 181	8	2, 083	3	2
August.....	2, 631, 056	9, 570	10	82	16	0
September.....	2, 061, 963	4, 621	4	1 591	2	0
October.....	304, 372	2, 981	0	1 593	1	0
November.....	456, 411	2, 100	0	27	0	0
December.....	253, 684	2, 198	0	16	0	0
Total.....	5, 996, 933	44, 651	22	3, 392	22	2

¹ In addition to 178 larvæ collected in September in green peppers consigned from Dighton, Mass., and inspected at Portland, Me., and 480 larvæ similarly collected in October.

CONTROL OF VEHICULAR TRAFFIC

Road stations were maintained at the principal roads on all boundaries of the regulated areas and also at the principal highways leading between the regulated areas of New Hampshire and Maine. These stations numbered 8 in Maine, 45 in Connecticut, 7 in New York, 25 in New Jersey, 20 in Pennsylvania, 3 in West Virginia, 49 in Ohio, 35 in Indiana, and 14 in the Upper Peninsula of Michigan. In addition, inspectors were also stationed at 19 docks and ferries in Michigan. These stations were opened the latter part of July at the beginning of the sweet-corn season and were continued until about September 20, except that the stations in the vicinity of New York City were continued to the end of September and those in western Connecticut until October 12. Approximately 13,000,000 cars were stopped at these stations and large quantities of corn and other restricted articles were intercepted and confiscated. While it was impracticable to examine all the confiscated material, such casual inspection as it was possible to give resulted in the finding of 2,813 borers which would have been carried to outside areas if the road stations had not been maintained. The details of the road-station work are given in Table 10.

TABLE 10.—*Results of road-station operation under European corn-borer quarantine, July 1 to December 31, 1929*

Item	July	August	September	October	Total
Eastern (2-generation) area:					
Vehicles stopped.....number..	259, 185	808, 248	668, 321	218, 353	1, 954, 107
Confiscations—					
Ear corn.....ears.....	4, 116	21, 560	11, 544	2, 700	39, 920
Corn (additional, including shelled).....pounds.....	312	8	1, 040	112	1, 472
Cornstalks.....do.....	0	0	300	0	300
Beans, Lima and string.....quarts.....	1 1, 322	2, 008	1 1, 102	4 8	4, 440
Beets.....lots or bunches.....	871	1, 511	517	4 28	2, 927
Celery.....bunches.....	487	757	288	700	2, 232
Rhubarb.....lots or stalks.....	220	183	396	84	883
Cosmos.....do.....	158	1, 474	1, 404	721	3, 757
Gladiolus.....stalks.....	924	8, 409	5, 450	739	15, 522
Asters.....do.....	190	1, 725	4, 046	1, 347	7, 308
Zinnias.....do.....	599	2, 298	2, 184	636	5, 717
Dahlias.....do.....	197	1, 785	3, 656	2, 695	8, 333
Chrysanthemums.....do.....	20	120	22	156	318
Hollyhocks.....do.....	65	68	8	39	180
Sudan grass.....do.....	0	0	30	0	30
Mixed flowers.....do.....	0	6	0	0	6
Borers found.....number.....	4 124	4 574	1, 189	130	2, 017
Central area:					
Vehicles stopped.....number.....	746, 376	3, 204, 441	2, 565, 182	316, 966	6, 832, 965
Confiscations—					
Ear corn.....ears.....	37, 696	116, 958	36, 499	1, 111	192, 264
Shelled corn.....bushels.....	0	5 9	3	0	8 9
Borers found.....number.....	17	96	107	7	227

¹ In addition to 26 bags and 1 truckload of beans in July and 29 boxes in September.

⁴ In addition to one pupa in July and one egg mass in August.

TABLE 10.—*Results of road-station operation under European corn-borer quarantine, July 1 to December 31, 1929—Continued*

Item	July	August	September	October	Total
Western area:					
Vehicles stopped.....number..	246, 230	2, 072, 446	1, 732, 583	12, 364	4, 063, 623
Confiscations—					
Ear corn.....ears..	² 16, 547	97, 333	44, 925	260	159, 065
Broomcorn.....bunches..	0	³ 411	6	0	417
Popcorn.....bushels..	0	3	22.3	0	25.3
Shelled corn.....do..	0	167	7.5	0	174.5
Sorghum.....stalks..	0	0	3	0	3
Borers found.....number..	115	401	53	0	569

² In addition to 7 sacks of husks and 1 bag of cobs in July.³ In addition to 150 pounds (broomcorn) in August.

APPROPRIATIONS

The agricultural appropriation bill for the fiscal year 1931 as reported to the House of Representatives by the Committee on Appropriations on December 13, 1929, carries, on the recommendation of the department, an item of \$1,000,000 for the control and prevention of spread of the European corn borer.

This amount may be compared with the item of \$898,000 carried in the agricultural appropriation act for the fiscal year 1930 and \$887,660 in the act for the year 1929. To these amounts there was added \$50,000 which became immediately available for work in the spring of 1929 under the proviso quoted on page 99 of the Service and Regulatory Announcements for October–December, 1928.

MEXICAN FRUIT-WORM ERADICATION

INFESTATION AT BROWNSVILLE

While the Mexican fruit-worm infestation in the western part of the lower Rio Grande Valley fruit-growing district found in April, 1929, seems to have been completely eradicated, the insect was found to have reached Brownsville, in the eastern end of the cultivated area, on November 19, 1929. Subsequent inspections showed three premises involved—two on St. Charles Street and one on Levee Street. In all cases the infested fruit was growing on backyard trees on city lots. Subsequent thorough inspections were then made of all fruit growing in the city, but no other specimens were found.

As provided under the State and Federal quarantine regulations, an infested zone was promptly designated by a committee appointed by the Cameron County commissioners' court. The area so designated was somewhat less than a square mile in extent and was bounded by the Rio Grande River, Eleventh, Monroe, and West Fifth Streets, Brownsville. The fruit in this zone was immediately destroyed under State authority, all the property owners within the zone being officially notified of the necessity for so doing. The clean-up was completed within eight days after the infestation was first found, the fruit from the zone being buried under quicklime and 3 feet of soil. Of the sour-orange trees within the area, approximately 100 were destroyed.

This Brownsville infestation apparently developed as a result of the spread of the Mexican fruit worm from an infestation in Matamoros, Mexico, immediately across the river from Brownsville. Infested fruit from the interior of Mexico is reaching that city regularly and is on sale on the markets there. As a result of the clean-up measures in Matamoros adopted in previous years, however, the fruit growing in the city itself has been largely free from infestation and the fruit worm was not discovered to have become established there this season until September 8.

In cooperation with the local representative for the Oficina para la Defensa Agrícola, a complete survey of Matamoros was immediately started. This resulted in the discovery of 509 Mexican fruit worms in September, 392 in October, 208 in November, and 59 in December, these figures including trap collections.

About 50 per cent of the fruit examined was found to be infested. On several of the premises all the early-ripening fruit was found to have been attacked and in a number of instances green fruits which had not yet begun to change color were found infested.

In cooperation with the Mexican Government a complete clean-up of the ripe and ripening fruit growing in Matamoros was begun on September 25. Host fruits of all kinds, including all varieties of citrus (except lemons and sour limes) were stripped from the trees, dumped in a pit, and covered with quicklime and 3 feet of dry soil. This work was completed on October 12, and during its progress 1,208 field boxes of fruit in all stages of development were gathered on 495 different premises. The trees were then baited with a poison sirup consisting of 8 pounds of arsenate of lead, 10 pounds of blackstrap molasses, and 50 pounds of sugar in 200 gallons of water. This spray was repeated every 5 to 10 days after the infestation was discovered and was still being used in both Brownsville and Matamoros at the end of December.

Knapsack sprayers were used for this purpose and from one-half to 1½ pints of poison bait per tree were used. A total of 11,933 trees were so sprayed at Matamoros on each round of spraying.

AMENDMENT TO TEXAS REGULATIONS

The State Mexican fruit-worm regulations were amended on December 30, 1929, by the addition of regulation 3 (j) as follows:

Regulation 3 (j).—All fallen fruit or decaying fruit taken from any orchard must be destroyed by complete combustion by fire or by burying under at least 18 inches of soil. Likewise all decaying fruit or fruit debris accumulating at any premise must be destroyed in the same manner. Failure to comply with this regulation shall be considered a violation of this quarantine order and of the law authorizing the same.

QUARANTINE ENFORCEMENT

Progress continues to be made in the attempts to eliminate completely from the area all trees and shrubs of varieties which normally bear host fruits during the host-free period extending from March 1 to October 1, each season. During July 42 such alternate host trees were destroyed and 16 premises freed from such trees. Included in these figures are 9 guavas found in the Harlingen district in June and grubbed out in July, 15 sapotas found and destroyed at Weslaco; 4 more premises were freed from 5 such host trees in August, 5 additional trees were removed from 3 premises in September, 26 trees from 11 premises in October, 11 trees from 5 premises in November, and 4 seedlings from 4 premises in December. These figures are in addition to the sour oranges destroyed in the clean-up of the Brownsville infestation, sour oranges not being considered as summer-host trees.

Grove inspection as a basis for the certification of the 1929-30 citrus crop was started about September 10. Owing to the unusually heavy fall rains, the growers had some difficulty in complying with the requirements that the groves must be kept free from weeds and fallen fruit. From 7 to 11 per cent of the growers were temporarily denied inspection certificates each month because of failure to comply with these requirements.

Fruit moved from the valley in much heavier volume than during previous years. Rail shipments totaled 2,528 cars between October 1 and the end of December, as compared with 760 cars during the same period of the previous year. Packers' and shippers' permits were issued to 160 permittees, and, in addition, district inspectors issued permits for the shipment of 4,418 single boxes moving by express and truck in October, 13,471 in November, and 48,913 in December. The latter figure, which represents the extent of holiday shipments, may be compared with the record for December, 1928, when 16,920 single-box permits were issued.

The road station at Encino was maintained throughout the entire summer, except for about three weeks in September, but was not operated the full 24 hours until October 11. A second station was established east of Rio Grande city on October 27 to control movement over the road from Mission to Rio Grande city, Roma, and Laredo. This work is summarized in Table 11, in which the passenger cars found to be carrying fruit without permit are listed as interceptions. During the 6-month period no trucks were found carrying contraband fruit.

TABLE 11.—*Results of road-station operation under Mexican fruit-worm quarantine, July 1 to December 31, 1929*

Month	Encino station		Riogrande city station	
	Vehicles inspected	Interceptions	Vehicles inspected	Interceptions
July.....	9,504	58	0	0
August.....	6,704	58	0	0
September (1-7, 27-30 only).....	701	15	0	0
October.....	6,284	355	1,395	21
November.....	6,617	443	2,794	201
December.....	8,149	805	3,485	244
Total.....	37,959	1,734	6,674	466

¹ The Riogrande city station was not started until Oct. 27.

JAPANESE-BEETLE CONTROL

SPREAD DURING THE SUMMER OF 1929

The scouting season of June, July, and August, 1929, showed continued spread of the Japanese beetle to numerous isolated localities both north and south of the areas heretofore infested. In New England adult beetles were collected in Willimantic, Conn., Boston, Mass., and Providence, R. I. The insect was found to have spread up the Hudson Valley in New York State as far as Kingston. To the northwest beetles were collected at Williamsport, Pa., Binghamton, N. Y., and in southern Pennsylvania as far west as Chambersburg. The beetles were also collected at a large number of Maryland points between the formerly known isolated infestations at Hagerstown, Baltimore, Cambridge, and Delmar, and 82 specimens were found at Cape Charles and Norfolk, Va. A summary of these findings is given in Table 12.

TABLE 12.—*Summary of 1929 findings of the Japanese beetle at localities outside of main area regulated under Federal quarantine, July 1 to December 31, 1929, compared with findings at the same locations in previous seasons*

Locality	Beetles found			Locality	Beetles found		
	Season 1927	Season 1928	Season 1929		Season 1927	Season 1928	Season 1929
Connecticut:				Maryland:			
New London ^{1 2}	0	27	168	Hagerstown ^{1 2}	0	1	47
Willimantic ¹	0	0	21	Brunswick ¹	0	0	11
Hartford ^{1 2}	0	12	890	Bel Air ¹	0	0	15
Massachusetts:				Aberdeen ¹	0	0	16
Boston ¹	4	11	180	Forest Green.....	0	0	1
Springfield ^{1 2}	0	6,597	1,064	Havre de Grace ¹	0	0	191
Rhode Island:				Warwick ¹	0	0	2
Providence ¹	0	0	181	Chestertown ¹	0	0	7
New York:				Rosedale ¹	0	0	3
Kingston.....	0	0	13	Parkville ¹	0	0	29
Newburg.....	0	0	37	Halethorpe.....	0	0	1
Beacon.....	0	0	58	Baltimore ^{1 2}	30	264	7,185
Binghamton.....	0	0	10	West Elkridge.....	0	0	2
Pennsylvania:				Colgate ¹	0	0	1,538
Sayre ^{1 2}	0	14	252	Dundalk ¹	0	0	8
Athens.....	0	0	2	Sparrows Point.....	0	0	4
Williamsport ¹	0	0	1,393	Oxford ¹	0	0	2
Montoursville.....	0	0	1	Cambridge ^{1 2}	11	15	913
Lewistown ^{1 2}	0	1	2	Federsburg ¹	0	0	1
Duncannon.....	0	0	10	Delmar ^{1 2}	0	43	633
Gettysburg ¹	16	1	270	Virginia:			
York ¹	1	0	10	Alexandria ^{1 2 3}	0	72	3,940
Wrightsville.....	0	0	1	Ballston ^{1 3}	0	0	1
Chambersburg.....	0	0	2	Lyon Village ^{1 3}	0	0	6
Delaware:				Cape Charles ¹	0	0	68
Milford ¹	0	4	45	Norfolk ¹	0	0	14
Delmar ^{1 2}	0	19	1,034				
District of Columbia:							
Washington ^{1 3}	13	112	3,180				

¹ Locality where traps were used in 1929.

² Included in State quarantine.

³ Included in regulated area in revision of Federal quarantine effective Feb. 15, 1929.

On October 31, 1929, a hearing was held "to consider the advisability of revising the quarantine on account of this pest to include the State of Rhode Island within the quarantined area" and to discuss "any proposals in connection therewith which those in attendance at the hearing may desire to make." The hearing was largely attended by persons in interest and full statements of the various factors involved were presented. At the close of the year final action by the department was still pending.

SUPPRESSIVE MEASURES

A number of the outlying points of infestation referred to are being made the subject of active suppressive measures to delay the development of heavy infestations around the border of the regulated areas and to prevent such localities from becoming centers of spread. The States concerned are financing the necessary soil treatments and spraying, while the Federal Government is assisting by supervising the work and by setting up traps.

In accordance with this policy, some 15,000 geraniol traps were used during the summer to attract the beetles at such points, and about two-thirds of the numbers of beetles shown in Table 12 were captured in such traps, most of the remainder being secured by scouts in the vicinity of the traps. As newly infested localities were found during the summer traps were set up in and surrounding them for the purpose of securing data as to the intensity of the infestation and of reducing as much as possible the numbers of the beetles.

Soil treatments involving the use of arsenate of lead in grasslands where larval infestation was known or suspected are also being continued by the States concerned in cooperation with the Federal department. During the late summer and fall grassland was so treated at Binghamton, N. Y., Sayre and Athens, Pa., Hagerstown, Md., and Norfolk and Cape Charles, Va. The arsenical was in most cases employed at the rate of 214 pounds of arsenate of lead per acre, or 1 pound per 100 square feet. The lead arsenate dust was mixed with a carrier in the proportion of 4 pounds of sand and 2 pounds of tankage to 1 pound of the arsenical. This mixture was applied to the soil at the rate of 1,500 pounds per acre, except at Binghamton, where 3,000 pounds per acre were used, increasing the dosage to 425 pounds of lead arsenate per acre.

Details as to the treatments and costs are given in Table 13.

TABLE 13.—*Soil treatment to control the Japanese beetle at isolated points of infestation, July to December 31, 1929*

Place	Area	Total material used	Arsenate of lead used (approximately)	Total cost of work	Work began	Work ended
	<i>Square feet</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Dollars</i>		
Binghamton, N. Y.-----	257,300	18,000	2,571	832.15	Oct. 1	Oct. 7
Sayre, Pa.-----	3,392,700	120,300	17,185	4,837.71	Oct. 9	Nov. 5
Athens, Pa.-----	454,000	16,900	2,414	677.14	Nov. 6	Nov. 7
Norfolk, Va.-----	399,998	14,000	2,000	1,848.26	July 16	July 31
Hagerstown, Md.-----	1,085,713	38,000	5,429	1,844.64	Aug. 5	Aug. 23
Cape Charles, Va.-----	784,080	27,000	3,857	1,358.00	Aug. 4	Do.
Total-----	6,373,791	234,200	33,456	10,397.90	-----	-----

¹ In addition to the value of labor contributed by the Portsmouth Navy Yard.

INSPECTION OF FARM PRODUCTS

Restrictions on the movement of farm products from the Japanese-beetle-regulated areas were enforced during the summer from June 15 to September 25. On the latter date the regulations affecting these articles were removed by the Secretary of Agriculture for the remainder of the season, as the adult beetles had by that time disappeared to such an extent that they were no longer found infesting such products.

For the purpose of inspection and certification, specially constructed inspection platforms were set up at Scranton and Philadelphia, Pa.; New York, N. Y.; and Bridgeport and New Haven, Conn. At 33 other points in the regulated areas farm-products-inspection headquarters were established where inspectors were provided with desk space or other needs at some convenient location readily accessible to market centers.

Due to the presence of adult Japanese beetles in flight in unusual numbers during the daytime in the market and river-front districts of Philadelphia, it was necessary to curtail the inspect on service available at that city during several weeks of midsummer. Accordingly, from July 9 to August 14, inclusive, inspections were made there only from 8 p. m. to 10 a. m. each day. Full 24-hour service was resumed on August 15.

The Japanese-beetle infestation in the vicinity of Hammonton, N. J., has now become general and special measures were necessary to prevent infestation from being carried from that district in blackberry shipments. Hammonton is a center for Black Diamond blackberries and a berry market is conducted daily in the town. Quantities of berries are shipped by freight to the various markets of the East.

As the inspection of large shipments of berries under such conditions is impracticable, a fumigation house was constructed there by the Hammonton Market Commission, and berries were fumigated with carbon disulphide daily from August 1 to 20. Some 9,880 crates of blackberries were so treated and 174 Japanese beetles are known to have been killed, this number including only those found on the outside of the crates or on the floor after the crates were removed. The fumigation appeared to be entirely effective in destroying infestation and no injurious effect on the berries was observed.

The numbers of packages of fruits and vegetables and bales of hay and straw certified under the Japanese-beetle-quarantine regulations for movement to points outside the regulated areas during the 6-month period are shown in Table 14. Table 15 shows the number of Japanese beetles removed from such products at the inspection points.

TABLE 14.—Quantities of farm products, cut flowers, soil, and similar products certified under Japanese-beetle quarantine, July 1 to December 31, 1929

Month	Cut flowers ¹	Sand, soil, earth, etc.	Peat	Compost and manure	Fruits and vegetables ²	Hay and straw ³
	<i>Boxes</i>	<i>Carloads</i>	<i>Carloads</i>	<i>Carloads</i>	<i>Packages</i>	<i>Bales</i>
July.....	4, 551	2, 163	49	98	2, 362, 965	³ 9, 800
August.....	5, 198	2, 829	31	253	2, 440, 336	12, 168
September.....	6, 132	2, 739	82	219	1, 407, 408	13, 165
October.....	3, 439	2, 348	93	182	0	0
November.....	0	1, 663	71	188	0	0
December.....	0	1, 036	34	244	0	0
Total.....	19, 320	12, 778	360	1, 184	6, 210, 709	³ 35, 133

¹ The restrictions on cut flowers were in effect from June 15 to Oct. 15, inclusive.

² The restrictions on farm products were in effect from June 15 to Sept. 24, inclusive.

³ In addition to 250 bales of sphagnum moss in July.

TABLE 15.—*Japanese beetles removed from farm products and cut flowers at inspection points, June 15 to October 15, 1929, with comparative State totals for 1928*

Inspection point	Corn	Beans	Lettuce	Vegetables with tops	Miscellaneous vegetables	Bananas	Miscellaneous fruits	Cut flowers	Total beetles	Comparative State total for season 1928
Connecticut:										
New Haven inspection platform.....	0	1	0	0	0	0	0	0	1	
Stamford inspection platform.....	0	0	0	0	0	0	3	0	3	
Total.....									4	13
New York:										
New York Central, West Street platform.....	81	1	0	2	0	0	0	0	84	
New York Central, Washington Market platform.....	39	0	0	0	0	0	0	0	39	
New York Central, Cansvoort and West Fourteenth Street.....	153	0	1	0	1	0	2	0	157	
Yonkers.....	1	0	0	0	0	0	0	0	1	
Total.....									281	147
New Jersey:										
Newark inspection platform.....	12	0	0	12	0	0	0	0	24	
Hammonon berry market.....	0	0	0	0	2	0	174	0	176	
Total.....									200	49
Pennsylvania:										
Philadelphia, Delaware River Bridge inspection platform.....	46	4	1	60	93	0	163	0	367	
Philadelphia office.....	8	0	0	1	0	0	0	5	14	
Philadelphia Navy Yard.....	124	0	6	4	9	6	8	0	157	
Chester.....	6	1	0	1	5	1	0	12	26	
Philadelphia, 1608 Ludlow Street.....	0	0	0	0	0	0	0	408	408	
Philadelphia, Twelfth and Race Streets.....	0	0	0	0	0	0	0	337	337	
Harrisburg inspection platform.....	0	0	0	0	0	0	3	0	3	
Norristown inspection at farms.....	0	0	0	0	0	0	913	61	974	
Scranton inspection platform.....	185	0	0	0	0	0	256	0	441	
Sunbury.....	6	0	0	0	0	0	0	0	6	
Total.....									2,733	878
Delaware:										
Wilmington market ¹	4	1	0	4	7	0	12	0	28	
Milford.....	0	0	0	0	0	0	5	0	5	
Greenwood.....	6	0	0	0	1	0	5	0	12	
Total.....									45	44
Maryland:										
Perryville road inspection post.....	21	0	0	0	0	0	6	0	27	
Conowingo road inspection post.....	11	1	0	0	4	0	14	12	42	
Total.....									69	0
Total.....	703	9	8	84	122	7	1,564	835	3,332	1,131

¹ In addition to 31 Japanese beetles removed from empty baskets moving into Delaware from other parts of the infested area, such empty baskets being restricted under the Delaware State quarantine regulations.

NURSERY STOCK AND SOIL CERTIFICATION

Under the quarantine regulations, nursery and greenhouse premises in the Japanese-beetle-regulated areas are grouped into three classes. The stock from nurseries of class I (premises in districts in which neither grubs in the soil nor beetles have been found) may be certified without further inspection and without meeting the safeguards prescribed for classes II and III. Continued and repeated inspections are required on class II properties which are

located in infested districts but on which neither beetles nor grubs have been discovered. In class III nurseries the soil must either be removed or the soil ball treated or the plants must be grown in certified soil under screen.

At the close of the year nurseries classified under the Japanese-beetle-quarantine regulations were grouped as follows:

In Connecticut there were 90 premises of class I and 2 of class II; none of class III.

In Delaware there were 29 premises of class I, 18 of class II, and 6 of class III.

In the District of Columbia there were no premises of class I, 25 premises of class II, and 3 premises of class III.

In Maryland (Baltimore and vicinity) there were 7 premises of class I, 59 premises of class II, and 1 premise of class III.

In New Jersey there were 130 premises of class I, 50 premises of class II, and 53 premises of class III.

In New York there were 162 premises of class I, 77 premises of class II, and 2 premises of class III.

In Pennsylvania there were 71 premises of class I, 81 premises of class II, and 88 premises of class III.

In Virginia (Arlington County and Alexandria) there were 20 premises, all in class II.

The amount of nursery stock certified during the 6-month period and the number of plants treated with carbon disulphide or with hot water are shown in Table 16. The chemical treatment of soil and similar materials, whether for shipment or for use in nurseries or greenhouses, is outlined in Table 17. In both tables treatments to comply with the requirements of Notice of Quarantine No. 66, on account of the Asiatic beetle and the Asiatic garden beetle, are included.

TABLE 16.—*Certification and treatment of nursery stock under Japanese and Asiatic beetle quarantines, July 1 to December 31, 1929*

Month	Plants certified without chemical or thermal treatment	Plants certified ¹ after chemical or thermal treatment with—		Total plants certified
		CS ₂	Hot water	
July.....	6, 063, 812	0	0	6, 063, 812
August.....	6, 425, 271	0	0	6, 425, 271
September.....	3, 407, 103	354	0	3, 407, 457
October.....	6, 636, 907	7, 496	17, 559	6, 661, 962
November.....	5, 321, 077	630	8, 444	5, 330, 151
December.....	4, 183, 471	0	0	4, 183, 471
Total.....	32, 037, 641	8, 480	26, 003	32, 072, 124

¹ See footnotes to Table 17 for number plants treated with arsenate of lead for later certification.

TABLE 17.—*Chemical treatment of articles (other than nursery stock) restricted under the Japanese and Asiatic beetle quarantines, July 1 to December 31, 1929*

Month	Steam	Carbon disulphide ¹					Arsenate of lead	HCN dust
	Potting soil	Potting soil	Sand	Leaf mold	Surface soil	Berries	Surface soil	Bananas
	<i>Cubic yards</i>	<i>Cubic yards</i>	<i>Cubic yards</i>	<i>Cubic yards</i>	<i>Square feet</i>	<i>Crates</i>	<i>Square feet</i>	<i>Bunches</i>
July.....	0	906	1, 141	0	525	0	¹ 1, 576, 410	73, 785
August.....	0	167	1, 839	107	7, 436	9, 880	² 562, 086	43, 020
September.....	17	1, 355	1, 445	61	13, 321	0	33, 329	0
October.....	213	738	0	61	11, 595	0	23, 705	0
November.....	46	232	0	0	21, 352	0	0	0
December.....	27	37	0	0	0	0	0	0
Total.....	303	3, 435	4, 425	229	54, 229	9, 880	2, 195, 530	116, 805

¹ On this area there were 320,341 growing plants for later certification.

² On this area there were 198,102 growing plants for later certification.

ROAD PATROL AND TRANSIT INSPECTION

Road stations were maintained at 33 inspection points on the principal highways leading out of the regulated area. On all roads where the volume of traffic was sufficient to warrant a 24-hour patrol was maintained. On less traveled roads inspectors were stationed during the hours of greatest travel, or the hours when inspectors were on duty were varied from day to day.

No complete record was kept of the number of cars passing the inspection posts except at the three stations in Delaware. At most points, however, it was estimated that less than 1 per cent of the cars were carrying uncertified articles in violation of the regulations.

Details of the interceptions for the entire summer and fall are given in Table 18.

TABLE 18.—*Interceptions at road stations operated to enforce the Japanese and Asiatic beetle quarantine regulations, June 15 to December 31, 1929*

State	Cars passing all inspection stations	Cars carrying quarantined articles	Cars carrying uncertified quarantined articles
Connecticut.....	(1)	6,270	328
New York.....	(1)	5,796	289
Pennsylvania.....	(1)	17,272	11,235
Delaware.....	433,664	11,163	2,520
Total.....	(1)	40,501	14,372

¹ No complete record.

In addition to the road-patrol work enforcement officers of the administration are stationed in leading mail, express, and freight stations to intercept packages moving by such means in violation of quarantine. A total of 308 violations of the Japanese-beetle quarantine were thus intercepted during the 6-month period. Of the number given 198 represented violations also of the quarantine against the Asiatic beetle and the Asiatic garden beetle, while 25 violations of the latter quarantine only were also intercepted.

A synopsis of the quarantine violations by months is given in Table 19. The figures include interceptions under both quarantines 48 and 66, but do not include road-station interceptions except in 39 instances where a violation had already occurred before the road vehicle was stopped.

Of the total of 333 violations of the two quarantines 204 were detected by members of the Japanese-beetle staff and 129 were reported by other employees and collaborators of the department.

TABLE 19.—*Summary of shipments of nursery stock and other restricted articles intercepted in violation of the Japanese-beetle and Asiatic-beetle quarantines, July 1 to December 31, 1929*

Month	Total violations intercepted	Moving by—			Disposition		
		Mail	Express	Other-wise	Returned	Allowed to proceed	Destroyed
July.....	40	10	8	22	18	21	1
August.....	79	40	22	17	53	17	9
September.....	83	52	14	17	65	7	11
October.....	75	57	12	6	73	2	0
November.....	47	41	6	0	47	0	0
December.....	9	5	2	2	9	0	0
Total.....	333	205	64	64	265	47	21

APPROPRIATIONS

The agricultural appropriation bill for the fiscal year 1931 carries an item of \$475,000 for the control and prevention of spread of the Japanese and Asiatic beetles. This may be compared with an item of \$267,000 available for the current fiscal year, to which Congress may later add the amount of \$188,000, included in the first deficiency bill which is now pending.

ASIATIC BEETLE AND ASIATIC GARDEN BEETLE

The quarantine regulations issued to prevent the spread of the Asiatic beetle (*Anomala orientalis*) and the Asiatic garden beetle (*Aserica castanea*) on March 2, 1929, were enforced in conjunction with the work on the Japanese beetle project. The articles restricted under this quarantine are nursery and ornamental stock, sand, soil, earth, peat, compost, and manure.

As most of the nurseries concerned were affected by both quarantines, a joint form of certificate was used. The work carried out in enforcing the two quarantines is combined in Tables 16, 17, and 18.

SURVEYS CARRIED ON THROUGHOUT THE SUMMER MONTHS

Findings outside the regulated areas included the discovery of two adult Asiatic beetles at Schenectady, N. Y., and seven larvæ of the same species at Bridgeport, Conn. The Asiatic garden beetle was found to be more widely scattered, larvæ being discovered at Cromwell, Manchester, Mansfield, New Canaan, and Southport, Conn.; Amawalk, Fishkill, and Kingston, N. Y.; and Milford and Winterthur, Del. One adult was also captured at New London, Conn.

At a hearing held on October 31, 1929, to consider various features of the quarantine on account of the Asiatic beetle and the Asiatic garden beetle certain evidence was presented indicating that the potential danger of these two insects to the United States might not justify the expenses of quarantine administration and the losses resulting from the imposition of restrictions. The revocation of the quarantine was, therefore, proposed by a number in attendance. The desirability of taking this action was still under consideration at the close of the year.

PREVENTION OF SPREAD OF PINK BOLLWORM

On October 24, 1929, the pink bollworm was discovered in the Salt River Valley of Arizona. The first finding was in gin trash from two gins at Gilbert, but this was followed the next day, upon the inspection of fields in the vicinity, by the discovery of a general severe infestation in the locality. Surveys, which were begun immediately, eventually showed the infested area to comprise a district involving 40,000 acres of cotton and covering that part of the Salt River Valley east of Tempe.

The eradication measures which have been instituted include the prohibition of cotton production in the infested section and the carrying out of clean-up measures. The noncotton zone which has been established by the State contains 134,400 acres and extends 2 miles from the outermost points of known infestation. Within the noncotton zone there are about 40,000 acres which, for the crop of 1929, were planted to cotton and about 45,000 acres which were devoted to other cultivated crops. The noncotton zone is surrounded by a protective or buffer zone which extends 3 miles beyond the noncotton zone. In this buffer zone restrictions are placed on the date when cotton can be planted. For the crop of 1930, Pima, or long-staple cotton, can not be planted before April 1. Acala and other of the shorter staple varieties can not be planted before April 15.

The menace this infestation presents to other cotton-producing regions in Arizona and California, as well as the danger of infestation to the main Cotton Belt of the East, prompted the department to request funds to undertake clean-up of the cotton fields throughout the noncotton zone and in some parts

of the buffer area.¹ It is also proposed to amend the act authorizing Federal participation in compensating farmers, for actual and necessary losses because of the enforced nonproduction of cotton, to provide full Federal compensation for the crop of 1930, conditioned on the Federal Treasury being reimbursed for one-half of the amount paid. It is hoped that an appropriation for clean-up and the proposed arrangements for compensation for the crop of 1930 will enable the department to carry out its program and eradicate the pink bollworm from the Salt River Valley.

As a result of this discovery of the pink bollworm in central Arizona, special attention has been given to scouting the cotton plantings of the entire Southwest. By shortly after the close of the year all of the cotton-producing areas of Arizona and California had been covered. No infestation has been found in the latter State. In Arizona findings of the pink bollworm outside the Salt River Valley were limited to a small area near Sacaton and one specimen in the Safford Valley, no evidence of the persistence of the former infestations in Cochise and Greenlee Counties having been discovered as yet this season.

In the older part of the regulated area the insect has been found to be maintaining itself in Dona Ana County, N. Mex., and in Presidio, Brewster, El Paso, Hudspeth, and Reeves Counties, Tex. No infestations have been discovered this season in the Pecos Valley, N. Mex., or in the west-central Texas area, where the 1927-28 crop and, as to Ector County, the 1928-29 crop, showed a light infestation.

Scouting parties have meanwhile been making surveys in the main Cotton Belt to the east. Six crews of three men each were detailed to such work in eastern and central Texas and in Louisiana and two men are scouting the other Southern States, especially Mississippi, Alabama, and Georgia. The results of all such surveys continue to be negative.

QUARANTINE ENFORCEMENT

Restrictions on the movement of cotton products from the regulated areas include the requirements of compression and fumigation as conditions for the interstate or intrastate movement of cotton lint to uninfested sections and of the sterilization of cottonseed as a part of the continuous process of ginning. This work for the 6-month period is summarized in Table 20.

TABLE 20.—*Cotton ginned and fumigated in the pink-bollworm-regulated areas, July 1 to December 31, 1929*

Month	Gins	Lint ginned	Fumi- gating plants	Lint fumi- gated	Oil mills	Linters fumi- gated
	<i>Number</i>	<i>Bales</i>	<i>Number</i>	<i>Bales</i>	<i>Number</i>	<i>Bales</i>
July.....	0	0	6	763	0	418
August.....	139	446	4	29	20	193
September.....	139	32,863	10	8,314	18	897
October.....	139	89,312	10	66,261	20	2,119
November.....	139	83,207	10	74,954	19	939
December.....	204	64,089	11	82,642	25	1,158
Total.....	-----	269,917	-----	232,968	-----	5,724

Road stations have been maintained at 13 or 14 points on the principal highways leading from the regulated areas. During the six months 10,864 confiscations of various materials likely to carry the pink bollworm were made. A number of articles from the Big Bend area of Texas and the Salt River Valley of Arizona were found to contain living pink-bollworm larvæ. The road-station activities are summarized in Table 21.

¹ A joint resolution appropriating \$587,500 for such clean-up passed Congress and was signed by the President on Feb. 7, 1930.

TABLE 21.—*Summary of road-station work under the pink-bollworm and Thurberia-weevil quarantines, July 1 to December 31, 1929*

Month	Road stations	Cars stopped	Confiscations
July.....	13	47, 183	164
August.....	13	58, 030	443
September.....	13	47, 959	723
October.....	14	53, 394	2, 621
November.....	14	57, 319	3, 670
December.....	14	59, 610	3, 243
Total.....		323, 495	¹ 10, 864

¹ Including 102 confiscations made at stations operated by the State of Arizona in cooperation with the U. S. Department of Agriculture.

APPROPRIATIONS

The pending agricultural appropriation bill for the fiscal year ending June 30, 1931, carries an item of \$497,000 for the control and prevention of spread of the pink bollworm. This is approximately the same amount as was made available by the appropriation bill for the fiscal year 1930.

THURBERIA WEEVIL

The project for the prevention of spread of the *Thurberia* weevil is carried on as integral part of the pink-bollworm-quarantine enforcement activities as these areas overlap and as the requirements are substantially the same. During the current year (1929) there were no important changes in the general *Thurberia*-weevil situation. The pending agricultural appropriation bill for the fiscal year 1931 carries an item of \$34,300 for the control and prevention of spread of this insect, the same sum as was available for this project for the current year.

PARLATORIA DATE-SCALE ERADICATION

Except for the discovery of a *Parlatoria* date-scale infestation in the extreme southwestern section of the date-growing area of the Coachella Valley, there has been a continued improvement in the scale-eradication situation. Fifteen infested palms were found and were treated or destroyed in the Phoenix district during the 6-month period, as compared with 32 during the previous half year; similarly in the Imperial Valley 53 infested palms were found, as compared with 112 during the first half of 1929 and 1,003 from July 1 to December 31, 1928. In the Yuma district, in which a limited amount of inspection of the ornamental palms has been continuing, three such palms were found infested and were treated or destroyed.

The new Coachella Valley outbreak involves primarily seven properties in the vicinity of the Martinez Indian Reservation about 6 miles west of Mecca. Some 307 infested palms were found on these 7 properties. Only 3 of these infested palms, however, showed any large amount of scale and the infestations on these were not deep seated. In all probability the infestation came about as a result of spread from a property found infested south of the Indian reservation in 1927. Sixty-three additional infested palms were found on 15 other properties in various parts of the date-growing area of the Coachella Valley, mostly in the vicinity of Indio.

The progress made in eradication in individual infested gardens has been very encouraging. Of the 21 properties on which infested palms were found in the Coachella Valley in 1927 the number of such infested trees discovered has been reduced from 892 in that year to 524 in 1928 and to only 95 in 1929.

In the Imperial Valley the scouting was finished and follow-up inspection carried on. There are few commercial plantings in this area, most of the date palms being ornamental or abandoned seedlings distributed over a wide area.

A decrease in the number of infested palms found is evident as the work progresses.

The work for the 6-month period is summarized in Table 22.

TABLE 22.—*Palm inspections, date-scale-eradication project, July 1 to December 31, 1929*

Item	Arizona		California	
	Phoenix district	Yuma district	Coachella district	Imperial Valley
Palm inspections.....	33, 045	2, 044	158, 460	16, 468
Infested properties found ¹	5	2	22	19
Infested palms found and treated.....	15	3	370	53
Palms located on reconnaissance survey.....	0	0	0	196

¹ Including infestations found in December, 1929, and not treated or destroyed until January, 1930; but not including June findings of palms treated or destroyed in July.

APPROPRIATIONS

The agricultural appropriation bill for the fiscal year 1931 carries the amount of \$65,000 for the control and prevention of spread of the *Parlatoria* date scale. This is a reduction of \$21,700 under the Federal funds appropriated for that purpose for the current fiscal year.

PREVENTION OF SPREAD OF PHONY PEACH DISEASE

A new quarantine to prevent the spread of the phony peach disease was issued on April 30, 1929, becoming effective on June 1. Under this quarantine, which was established on the recommendation of the Bureau of Plant Industry, the interstate movement of peach and nectarine trees, peach nectarine roots, or any other kinds or varieties of trees or shrubs grafted or budded on peach or nectarine roots from the regulated areas of Georgia and Alabama was restricted. Simultaneously with the quarantine enforcement measures carried out by the Plant Quarantine and Control Administration, the Bureau of Plant Industry is undertaking the total eradication of this disease from the United States under an appropriation for that purpose.

Intensive eradication work was started by the bureau in the northern and northwestern part of Georgia with the intention of completely eliminating the phony peach disease from the outlying areas of infection at the earliest possible date and extending the eradication work eventually to the old centers of infection in the State in and surrounding Peach, Bibb, Macon, and Houston Counties.

The work thus far has included a substantially complete survey of the commercial orchards in the counties included in the lightly infested area and it reveals only a small number of recent infections in these districts. The infected trees discovered have been or are being destroyed. The bureau plans to continue the eradication work, (1) by broadening the surveys to cover dooryard and roadside peach trees, and (2) by extending the territory inward toward the center of infection as the work progresses.

This disease is believed to have been present in Georgia for 40 or 50 years, but it seems to have been limited to the vicinity of Marshallville for a considerable period and did not become sufficiently established to cause alarm until 1915. By that time enough dwarfed trees were observed in the Fort Valley area to cause one of the growers to bring the matter to the attention of the Bureau of Plant Industry. During the last few seasons the infection has been centered in Fort Valley, where over 99 per cent of the trees in some of the orchards have been attacked. Although present at least to some extent in 90 per cent of the commercial peach orchards of Georgia, surveys thus far indicate its absence from other States, except to a limited degree in Alabama and Mississippi.

The experimental work of the bureau has shown that this disease is an infectious condition of the root system which causes peach and nectarine trees and other trees grafted or budded on peach or nectarine roots to become dwarfed and produce abnormally small and poorly flavored fruit. The infectious virus appears to be confined entirely to the root system, and no restrictions therefore are placed on the movement of fruit or of scions, branches, and other parts of peach and nectarine trees without roots.

The important feature of the quarantine regulations is the requirement that the restricted articles are prohibited interstate movement from the regulated areas until after a permit has been issued therefor by the United States Department of Agriculture. Such permits are issued only to nurseries "within which and within 1 mile of which no infection of the phony peach disease has existed for at least two years prior to the proposed date of movement." With respect to shipments made prior to July 1, 1930, evidence based on a single season's inspection has been accepted.

As first designated, the regulated areas consisted of 64 counties of central and western Georgia and 1 county of eastern Alabama. Surveys by the Bureau of Plant Industry during the summer revealed a number of recent infections in other areas, and the regulations were therefore amended, effective November 1, 1929, adding 19 more counties of Georgia and 6 of Alabama to the regulated territory and dividing it into two areas known as the generally infected and the lightly infected area, respectively. The movement of peach and nectarine trees and roots from the generally infected to the lightly infected area is under the same restriction as such movement from the regulated areas as a whole to outside points.

Partial or complete inspections were made within and around 19 nurseries in Georgia and 3 nurseries in Alabama. The premises and environs of 8 Georgia nurseries and 1 Alabama nursery appeared to be free from phony peach-disease infection and permits were issued to their proprietors. Similar permits have been issued to 11 dealers to handle healthy stock not grown by themselves. Infections were, however, determined within the prescribed limits of 9 other Georgia nurseries and 2 Alabama nurseries. The remaining 2 Georgia nurserymen during the course of the inspection of their premises stated that they did not desire to ship interstate or intrastate to points outside the regulated area, and the inspections of their nurseries and environs were therefore not completed.

The complete inspection of a nursery and its environs entails a thorough canvass and detailed examination of an area of at least 3.14 square miles, or 2,010 acres, and if several separate blocks of peach and nectarine trees are grown may involve a much larger district.

The number of peach trees, exclusive of commercial orchards, found within each prescribed area varied from 303 to about 3,000, respectively. These trees were found in small home orchards, singly or as groups in back yards, in the middle of cultivated fields, along ditch banks, and so forth, and, in fact, in about every conceivable place. In one instance hundreds of seedlings, some 5 feet tall, were found among a growth of hardwood trees, apparently from seed washed there. In another case 6 definitely phony trees, part of an abandoned orchard, were found in the edge of a grove of good-sized pines.

In order to enforce the requirements, interstate shipments of nursery stock coming from the regulated areas were inspected in transit at Atlanta, Ga., Birmingham, Ala., and Nashville and Memphis, Tenn., during the fall and winter, and it is planned to continue such inspection until the close of the spring shipping season. This work resulted in the interception of five shipments at Atlanta and one at Birmingham moving in violation of the phony-peach-disease quarantine, all of which were turned back to the shippers. Inspectors at the points named further assisted in the enforcement of other plant quarantines in turning back 59 shipments moving in violation of such other quarantines. Forty-one of these were articles shipped from Florida without compliance with the Mediterranean fruit-fly-quarantine regulations, and the remainder were shipments intercepted in violation of the narcissus-bulb, white-pine-blister-rust, Mexican-fruit-worm, and Japanese-beetle quarantines.

The number of shipments inspected and the number of violations intercepted are included in the figures given later under the heading "Transit inspection."

As indicated in the transit inspection report, the item for the prevention of spread of the phony peach disease in the pending appropriation bill for the fiscal year 1931 is \$3,000 less than the similar item (\$15,000) during the current year, the difference constituting a transfer to the transit-inspection fund.

WHITE-PINE BLISTER RUST

The shipment of 5-leaved pines from New England, New York, or Washington State into other infected States is conditioned on the trees being grown from seed under specified sanitation requirements for protection from the blister rust. Movement from infected to noninfected States is entirely prohibited. A number of applications for pine-shipping permits were received during the 6-month period from New England and New York nurserymen, and two such permits were issued, one to a nursery in Maine and the other to a New York applicant. The permit supplied to the nurseryman in Maine was issued on the basis of inspections made during the previous fiscal year. A permit had previously been issued to a Vermont nursery, these three constituting the total number in force at the present time. In addition a tract in Connecticut on which a nurseryman wishes to plant 5-leaved pines was tentatively approved.

A considerable proportion of white-pine-blister-rust quarantine enforcement funds is devoted to the inspection of nursery stock in transit. This work resulted in the interception of 40 violations of the blister-rust quarantine during the last six months of 1929. Fifteen of these were shipped by commercial nurserymen and the remaining 25 by persons not commercially interested in the transportation of nursery stock.

The appropriation item for blister-rust work in the pending agricultural appropriation bill amounts to \$10,000, a reduction of \$17,000 from the present figure. This reduction consists of funds transferred to the new project of transit inspection.

GRAIN-RUST CONTROL BY MEANS OF BARBERRY ERADICATION

According to the Bureau of Plant Industry, 551,685 barberry bushes, seedlings, and sprouts were destroyed in 1929 in the campaign to prevent black stem-rust epidemics in the grain-growing States. A grand total of 18,143,999 such bushes, seedlings, and sprouts have been destroyed during the entire campaign, which began in the spring of 1918.

During the calendar year approximately 11 counties in Illinois, Michigan, and Ohio were covered by the first survey, and approximately 14.5 counties in Colorado, Illinois, Minnesota, Montana, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin were surveyed a second time. Resurveys were completed in areas totaling approximately 12.5 counties, located in the same States, and Indiana in addition.

The Plant Quarantine and Control Administration is responsible only for that phase of the barberry-eradication project which relates to the enforcement of the Federal quarantine against the interstate movement of Berberis and Mahonia plants. No special appropriation to the administration is made for this purpose. Two violations of this quarantine were intercepted by transit inspectors of the administration during the 6-month period.

TRANSIT INSPECTION

The inspection in transit of articles restricted under domestic-plant quarantines has been carried on during the past season under appropriations for the control and prevention of spread of the white pine blister rust, the phony peach disease, the European corn borer, the Mediterranean fruit fly, and the Japanese beetle. The number of different shipments inspected in connection with this work and the number of quarantine violations intercepted are shown in Tables 23 and 24.

TABLE 23.—*Shipments intercepted by transit inspectors as violations of Federal plant quarantines, July 1 to December 31, 1929*

Quarantine	Com- mercial ship- pers	Non- com- mercial ship- pers	Quarantine	Com- mercial ship- pers	Non- com- mercial ship- pers
No. 38, black stem rust.....	0	2	No. 64, Mexican fruit worm.....	1	1
No. 43, European corn borer.....	3	91	No. 67, phony peach disease.....	6	0
No. 45, gipsy moth and browntail moth.....	5	19	No. 68, Mediterranean fruit fly.....	65	13
No. 48, Japanese beetle.....	2	18	Violations of Nos. 48 and 66.....	39	57
No. 62, narcissus bulb.....	317	45			
No. 63, white-pine blister rust.....	15	25		1 453	1 271

¹ The total number of quarantine violations shown here, 724, represent 708 different shipments; in addition to the double violations shown for quarantines No. 48 and No. 68, 16 others were violations of two or more quarantines.

TABLE 24.—*Shipments of nursery stock and other plants and plant products checked by transit inspectors as to compliance with plant quarantines, July 1 to December 31, 1929*

Station	Parcel post	Express	Freight	Total
Atlanta.....	1,544	4,315	52	5,911
Birmingham.....	1,314	2,545	33	3,892
Chicago.....	35,516	11,755	127	47,398
Cincinnati.....	0	179	0	179
Cleveland.....	1,780	77	0	1,857
Indianapolis.....	269	20	0	289
Kansas City.....	8,896	9,992	360	19,248
Memphis.....	1,115	1,912	86	3,113
Nashville.....	1,774	3,980	430	6,184
New York.....	171,713	1,909	0	173,622
Omaha.....	3,171	394	0	3,565
Portland.....	5,265	4,877	2,056	12,198
St. Louis.....	0	55	0	55
St. Paul.....	901	321	0	1,222
Seattle.....	4,447	535	17	4,999
Spokane.....	2,914	451	390	3,755
Washington, D. C.....	0	250	0	250
Total.....	240,619	43,567	3,551	287,737

Under the pending agricultural appropriation bill for the fiscal year 1931 provision is made for the establishment of this work as a separate project and an item of \$40,000 is carried for the purpose. Of this amount \$20,000 constitutes an increase in available funds and the remainder (\$20,000) is derived from a reduction of \$17,000 in the white-pine-blister-rust appropriation and of \$3,000 in the phony-peach-disease appropriation.

QUARANTINE AND OTHER OFFICIAL ANNOUNCEMENTS

ANNOUNCEMENTS RELATING TO EUROPEAN CORN-BORER QUARANTINE (NO. 43)

REVISION OF REGULATIONS

INTRODUCTORY NOTE

This revision of the European corn-borer-quarantine regulations is necessitated by the spread of the borer during the past season. Thirty-eight townships in Connecticut, 30 townships in Massachusetts, 111 townships in Maine, 39 townships in New Hampshire, 102 townships in Vermont, 110 townships in Indiana, 7 townships in Pennsylvania, 195 townships in Ohio, and 23 townships in West Virginia, a total of 655 townships are now added to the regulated area, of which 209 are in the 2-generation area and 446 in the 1-generation area. In addition, 7 townships in New Hampshire which were formerly in the 1-generation area have been transferred to the 2-generation area.

Changes in the requirements governing the interstate movement of the restricted articles include (1) placing the limitation on the quantity of cleaned shelled corn which may be shipped without certification or other restriction at 25 pounds to the shipment instead of 2 pounds, as heretofore; (2) allowing free movement of sweet corn on the cob from New York City during the months of May and June, the period during which no sweet corn produced within the regulated areas reaches that city; and (3) removing the special restriction applying to Maine as to entry of the restricted articles from the regulated areas outside that State.

LEE A. STRONG,

Chief, Plant Quarantine and Control Administration.

NOTICE OF QUARANTINE No. 43 (SIXTH REVISION)

(Effective on and after January 1, 1928. Amends and supersedes Quarantine No. 43, fifth revision, as amended)

I, W. M. Jardine, Secretary of Agriculture, have determined that it is necessary to quarantine the States of Massachusetts, New Hampshire, Maine, Rhode Island, Connecticut, Vermont, New York, New Jersey, Pennsylvania, West Virginia, Ohio, Michigan, and Indiana to prevent the spread of the European corn borer (*Pyrausta nubilalis* Hubn.), a dangerous insect new to and not heretofore widely prevalent or distributed within and throughout the United States.

Now, therefore, under authority conferred by section 8 of the plant quarantine act of August 20, 1912 (37 Stat. 315), as amended by the act of Congress approved March 4, 1917 (39 Stat. 1134, 1165), and having duly given the public hearing required thereby, I do quarantine the said States of Massachusetts, New Hampshire, Maine, Rhode Island, Connecticut, Vermont, New York, New Jersey, Pennsylvania, West Virginia, Ohio, Michigan, and Indiana, effective on and after January 1, 1928. Hereafter, under the authority of said act of August 20, 1912, amended as aforesaid, corn¹ and broomcorn (including all parts of the stalk), all sorghums, Sudan grass, celery, green beans in the pod, beets with tops, rhubarb, oat and rye straw as such or when used as packing,

¹ Important: Shippers should note from regulation 5 that restrictions on the movement of corn, broomcorn, sorghums, and Sudan grass apply throughout the regulated areas, but that certification of the other products named in the notice of quarantine is required only when they are to be moved from the regulated areas of Massachusetts (eastern section), New Hampshire, Maine, Rhode Island, Connecticut (eastern section), and from Fishers Island in Suffolk County, N. Y. This is in accord with the regulations heretofore in force under Notice of Quarantine No. 43.

cut flowers or entire plants of chrysanthemum, aster, cosmos, zinnia, hollyhock, and cut flowers or entire plants of gladiolus and dahlia, except the bulbs thereof without stems, shall not be shipped, offered for shipment to a common carrier, received for transportation or transported by a common carrier, or carried, transported, moved, or allowed to be moved from the said States into or through any other State or Territory or District of the United States, in manner or method or under conditions other than those prescribed in the rules and regulations hereinafter made and amendments thereto: *Provided*, That the restrictions of this quarantine and of the rules and regulations supplemental thereto may be limited to the areas in a quarantined State now, or which may be hereafter, designated by the Secretary of Agriculture as regulated areas when, in the judgment of the Secretary of Agriculture, the enforcement of the aforesaid rules and regulations as to such regulated areas shall be adequate to prevent the spread of the European corn borer: *Provided further*, That such limitation shall be conditioned upon the said State providing for and enforcing such control measures with respect to such regulated areas as, in the judgment of the Secretary of Agriculture, shall be deemed adequate to prevent the spread of the European corn borer therefrom to other parts of the State.

Done at the city of Washington, this 29th day of December, 1927.

Witness my hand and the seal of the United States Department of Agriculture.

[SEAL.]

W. M. JARDINE,
Secretary of Agriculture.

REVISED RULES AND REGULATIONS SUPPLEMENTAL TO NOTICE OF QUARANTINE No. 43 (SIXTH REVISION)

(Approved December 16, 1929; effective December 16, 1929)

REGULATION 1. DEFINITIONS.

For the purpose of these regulations the following words, names, and terms shall be construed, respectively, to mean:

(a) Corn borer: The insect known as the European corn borer (*Pyrausta nubilalis* Hubn.).

(b) Quarantined area: Any State quarantined by the Secretary of Agriculture upon determination by him that the corn borer exists therein.

(c) Two-generation regulated area: The entire area comprised of portions of the quarantined States now or hereafter designated by the Secretary of Agriculture as regulated to prevent the spread of the 2-generation strain of the European corn borer therefrom.

(d) One-generation regulated area: The entire area comprised of portions of the quarantined States now or hereafter designated by the Secretary of Agriculture as regulated to prevent the spread of the 1-generation strain of the European corn borer therefrom.

(e) Inspector: An inspector of the United States Department of Agriculture.

REGULATION 2. LIMITATION OF RESTRICTIONS TO REGULATED AREAS.

Conditioned upon the compliance on the part of the State concerned with the second proviso in notice of quarantine No. 43 (sixth revision), the restrictions provided in these regulations on the interstate movement of the plants and plant products enumerated in said notice of quarantine will be limited to such products originating in or moving from the areas in such States now or hereafter designated by the Secretary of Agriculture as regulated areas.

REGULATION 3. REGULATED AREAS.

In accordance with the provisos to Notice of Quarantine No. 43 (sixth revision), the Secretary of Agriculture designates as regulated areas for the purpose of these regulations, the States, counties, townships, towns, and cities stated below, including any cities, towns, boroughs, or other political subdivisions included within their limits. Such regulated areas shall consist of the 2-generation regulated area and the 1-generation regulated area, respectively, as follows:

TWO-GENERATION REGULATED AREA

Connecticut (eastern section): Counties of Middlesex, New London, and Windham; and towns of Berlin, Glastonbury, Manchester, and Marlborough, in *Hartford County*; towns of Branford, Guilford, Madison, and Meriden, in *New Haven County*; and towns of Andover, Bolton, Columbia, Coventry, Hebron, Mansfield, Tolland, and Willington, in *Tolland County*.

Maine: Counties of Cumberland, Knox, Lincoln, Sagadahoc and York; and towns of Auburn, Durham, Lewiston, Lisbon, Poland, and Webster, in *Androscoggin County*; towns of Gouldsborough, Sullivan, Hancock, Orland, Bucksport, and the city of Ellsworth, in *Hancock County*, and all territory south of said towns and city in said county; towns of Augusta, Chelsea, China, Farmingdale, Gardiner, Hallowell, Litchfield, Manchester, Pittston, Randolph, West Gardiner, and Windsor, in *Kennebec County*; towns of Brownfield, Denmark, Fryeburg, Hiram, and Porter, in *Oxford County*; and towns of Belfast, Belmont, Frankport, Islesborough, Liberty, Lincolnville, Montville, Morrill, Northport, Palermo, Prospect, Searsmont, Searsport, Stockton Springs, Swanville, and Waldo, in *Waldo County*.

Massachusetts (eastern section): Counties of Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Plymouth, Suffolk, and Worcester.

New Hampshire: Counties of Belknap, Cheshire, Hillsboro, Merrimack, Rockingham, Strafford, and Sullivan; and towns of Brookfield, Conway, Eaton, Effingham, Freedom, Madison, Moultonboro, Ossipee, Sandwich, Tamworth, Tuftonboro, Wakefield, and Wolfeboro, in *Carroll County*; and towns of Alexandria, Ashland, Bridgewater, Bristol, Campton, Canaan, Dorchester, Enfield, Grafton, Groton, Hanover, Haverhill, Hebron, Holderness, Lebanon, Lyme, Orange, Orford, Piermont, Plymouth, Rumney, and Wentworth, in *Grafton County*.

New York: Fishers Island, in *Suffolk County*.

Rhode Island: The entire State.

ONE-GENERATION REGULATED AREA

Connecticut (northern section): Towns of Enfield and Suffield, in *Hartford County*; towns of North Canaan and Salisbury in *Litchfield County*; and town of Somers, in *Tolland County*.

Indiana: Counties of Adams, Allen, Blackford, De Kalb, Elkhart, Grant, Huntington, Jay, Kosciusko, Lagrange, La Porte, Marshall, Miami, Noble, Randolph, Starke, St. Joseph, Steuben, Wabash, Wayne, Wells, and Whitley; and townships of Center, Delaware, Hamilton, Harrison, Liberty, Monroe, Mount Pleasant, Niles, Perry, Union, and Washington, in *Delaware County*; township of Posey in *Fayette County*; townships of Henry, Liberty, New Castle, Richland, and Rochester, in *Fulton County*; townships of Blue River, Dudley, Franklin, Henry, Liberty, Prairie, and Stoney Creek, in *Henry County*; townships of Jackson, Liberty, and Union, in *Howard County*; townships of Boone, Monroe, and Van Buren, in *Madison County*; townships of Boone, Jackson, Morgan, Pleasant, and Washington, in *Porter County*; and townships of Center, Harrison, and Union, in *Union County*.

Massachusetts (western section): County of Berkshire; and towns of Ashfield, Bernardston, Buckland, Charlemont, Colrain, Conway, Deerfield, Erving, Gill, Greenfield, Hawley, Heath, Leverett, Leyden, Monroe, Montague, Northfield, Orange, Rowe, Shelburne, Sunderland, Warwick, and Whately, in *Franklin County*; towns of Agawam, Blanford, Chester, Chicopee, East Longmeadow, Granville, Holyoke, Longmeadow, Ludlow, Montgomery, Russell, Southwick, Springfield, Tolland, Westfield, West Springfield, and Wilbraham, in *Hampden County*; and towns of Chesterfield, Cummington, Easthampton, Goshen, Hadley, Hatfield, Huntington, Middlefield, Northampton, Plainfield, Southampton, Westhampton, Williamsburg, and Worthington, in *Hampshire County*.

Michigan: The entire State.

New Jersey: Woodbridge, in *Middlesex County*; and Bayonne, Jersey City, Hoboken, Weehawken, North Bergen, Union City, West New York, Guttenberg, and Secaucus, in *Hudson County*, being all that part of said county east of the Hackensack River and Newark Bay.

New York: The entire State (except Fishers Island, in *Suffolk County*).

Ohio: Counties of Allen, Ashland, Ashtabula, Athens, Auglaize, Belmont, Carroll, Champaign, Clark, Clinton, Columbiana, Coshocton, Crawford, Cuya-

hoga, Darke, Defiance, Delaware, Erie, Fairfield, Fayette, Franklin, Fulton, Geauga, Greene, Guernsey, Hancock, Hardin, Harrison, Henry, Hocking, Holmes, Huron, Jefferson, Knox, Lake, Licking, Logan, Lorain, Lucas, Madison, Mahoning, Marion, Medina, Mercer, Miami, Monroe, Montgomery, Morgan, Morrow, Muskingum, Noble, Ottawa, Paulding, Perry, Pickaway, Portage, Preble, Putnam, Richland, Ross, Sandusky, Seneca, Shelby, Stark, Summit, Trumbull, Tuscarawas, Union, Van Wert, Warren, Washington, Wayne, Williams, Wood, and Wyandot; and townships of Lemon and Madison, in *Butler County*; townships of Dodson, Fairfield, Hamer, Liberty, Madison, New Market, Paint, Penn, and Union, in *Highland County*; townships of Milton and Washington, in *Jackson County*; and townships of Brown, Clinton, Eagle, Elk, Harrison, Jackson, Knox, Madison, Richland, Swan, and Vinton, in *Vinton County*.

Pennsylvania: Counties of Allegheny, Armstrong, Beaver, Blair, Bradford, Butler, Cambria, Cameron, Carbon, Centre, Clarion, Clearfield, Clinton, Columbia, Crawford, Elk, Erie, Forest, Greene, Indiana, Jefferson, Lackawanna, Lawrence, Luzerne, Lycoming, McKean, Mercer, Mifflin, Monroe, Montour, Pike, Potter, Sullivan, Susquehanna, Tioga, Union, Venango, Warren, Washington, Wayne, Westmoreland, and Wyoming; and townships of Bedford, Bloomfield, Broad Top, Colerain, East Providence, East St. Clair, Harrison, Hopewell, Juniata, Kimmel, King, Liberty, Lincoln, Monroe, Napier, Snake Spring, South Woodbury, Union, West Providence, West St. Clair, and Woodbury, in *Bedford County*; townships of Brownsville, Bullsken, Connellsville, Dunbar, Franklin, Georges, German, Jefferson, Lower Tyrone, Luzerne, Menallen, Nicholson, North Union, Perry, Redstone, Salt Lake, South Union, Springfield, Spring Hill, Stewart, Upper Tyrone, Washington, and Wharton, in *Fayette County*; townships of Barree, Brady, Carbon, Cass, Franklin, Henderson, Hopewell, Jackson, Juniata, Lincoln, Logan, Miller, Morris, Oneida, Penn, Porter, Shirley, Smithfield, Spruce Creek, Tod, Union, Walker, Warriorsmark, West, and Wood, in *Huntingdon County*; township of Upper Mount Bethel in *Northampton County*; townships of Coal, Delaware, East Cameron, East Chillisquaque, Gearhart, Lewis, Little Mahanoy, Lower Augusta, Mount Carmel, Point, Ralpho, Rockefeller, Rush, Shamokin, Turbot, Upper Augusta, West Cameron, West Chillisquaque, and Zerbe, in *Northumberland County*; townships of Butler, Delano, East Union, Kline, Mahanoy, North Union, Rush, Ryan, Union, and West Mahanoy, in *Schuylkill County*; and townships of Allegheny, Black, Brothersvalley, Conemaugh, Fairhope, Jefferson, Jenner, Larimer, Lincoln, Lower Turkeyfoot, Middlecreek, Milford, Northampton, Ogle, Paint, Quemahoning, Shade, Somerset, Stoneycreek, Summit, and Upper Turkeyfoot, in *Somerset County*.

Vermont: The entire State.

West Virginia: Counties of Brooke, Hancock, Marshall, Ohio, and Wetzel; and townships of Batelle, Cass, Clay, and Union, in *Monongalia County*; townships of Grant, Union, and Washington, in *Pleasants County*; townships of Ellsworth, Lincoln, and Union, in *Tyler County*; and townships of Parkersburg, Union, and Williamstown, in *Wood County*.

REGULATION 4. EXTENSION OR REDUCTION OF REGULATED AREAS.

The regulated areas designated in regulation 3 may be extended or reduced as may be found advisable by the Secretary of Agriculture. Due notice of any extension or reduction and the areas affected thereby will be given in writing to the transportation companies doing business in or through the States in which such areas are located, and by publication in newspapers selected by the Secretary of Agriculture within the States in which the areas affected are located.

REGULATION 5. CONTROL OF MOVEMENT OF RESTRICTED PLANTS AND PLANT PRODUCTS.

Section A.—Restrictions on movement from 1-generation regulated area

(1) No cornstalks, ears, or other parts or debris of corn or broomcorn plants or sorghums or Sudan grass shall be moved or allowed to be moved interstate from the 1-generation regulated area to or through any point outside thereof, unless a certificate or a permit shall have been issued therefor, except as provided in paragraphs (2) and (3) hereof.

(2) No corn on the cob or ears of corn originating within the 1-generation regulated area shall be moved or allowed to be moved interstate from such

area to or through any point outside thereof. No corn on the cob originating outside the regulated areas and moved to the 1-generation regulated area shall be moved or allowed to be moved interstate from such area to or through any point outside thereof unless a permit shall have been issued therefor: *Provided*, That no restrictions are placed on the movement of green corn on the cob from New York City (including the Boroughs of Bronx, Brooklyn, Manhattan, Richmond, and Queens), or from the regulated parts of New Jersey, during the months of May and June, and no permit will be required for such movement during that period.

(3) No shelled corn, or seed of broomcorn or of sorghums, or of Sudan grass, shall be moved or allowed to be moved interstate from the 1-generation regulated area to or through any point outside thereof, unless the said corn or seed has been cleaned and unless a certificate or permit authorizing such movement shall have been issued therefor by the United States Department of Agriculture, except that no such certificate or permit shall be required with respect to such movement of packages or cleaned shelled corn weighing 25 pounds or less to the shipment.

(4) No restrictions are placed on the interstate movement from the 1-generation regulated area to or through any point outside thereof, at any time of the year, of celery, green beans in the pod, beets with tops, rhubarb, oat and rye straw as such or when used as packing, nor cut flowers or entire plants of chrysanthemum, aster, cosmos, zinnia, hollyhock, gladiolus, and dahlia.

Section B.—Restrictions on movement from 2-generation regulated area

(1) No cornstalks, ears, or other parts or débris of corn or broomcorn plants or sorghums or Sudan grass shall be moved or allowed to be moved interstate from the 2-generation regulated area to or through any point outside thereof, unless a certificate or a permit shall have been issued therefor, except as provided in paragraphs (2) and (3) hereof.

(2) No corn on the cob or ears of corn originating within the 2-generation regulated area shall be moved or allowed to be moved interstate from such area to or through any point outside thereof. No corn on the cob originating outside the regulated areas and moved to the 2-generation regulated area shall be moved or allowed to be moved interstate from such area to or through any point outside thereof unless a permit shall have been issued therefor.

(3) No shelled corn, or seed of broomcorn or of sorghums or of Sudan grass, shall be moved or allowed to be moved interstate from the 2-generation regulated area to or through any point outside thereof, unless the said corn or seed has been cleaned and unless a certificate or permit authorizing such movement shall have been issued therefor by the United States Department of Agriculture, except that no such certificate or permit shall be required with respect to such movement of packages of cleaned shelled corn weighing 25 pounds or less to the shipment.

(4) No cut flowers or entire plants of chrysanthemum, aster, cosmos, zinnia, hollyhock, dahlia, or gladiolus shall be moved or allowed to be moved interstate from the 2-generation regulated area to or through any point outside thereof unless a certificate or permit shall have been issued therefor by the United States Department of Agriculture. No restrictions are, however, placed on the interstate movement of bulbs and roots of dahlia and gladiolus without stems and no certificate or permit will be required for such movement.

(5) No celery, green beans in the pod, beets with tops, rhubarb, or oat or rye straw, as such or when used as packing, shall be moved or allowed to be moved interstate from the 2-generation regulated area to or through any point outside thereof during the period from June 1 to December 31, inclusive, unless a certificate or permit shall have been issued therefor by the United States Department of Agriculture. No restrictions are placed on the interstate movement of such articles during the period from January 1 to May 31, inclusive, and no certificate or permit will be required for such movement during that period.

Section C.—General provisions

(1) No restrictions are placed on the interstate movement of any of the articles enumerated when they shall have been manufactured, processed, or treated in such a manner that in the judgment of the inspector no infestation could be transmitted.

(2) No restrictions are placed on the interstate movement of any of the articles enumerated moved from an area not under regulation through a regulated area when such movement is on a through bill of lading.

(3) No restrictions are placed on the interstate movement of the articles enumerated between points within the same regulated area, provided such articles do not pass through any point outside the regulated area in which they originated.

REGULATION 6. CONDITIONS GOVERNING THE ISSUANCE OF CERTIFICATES AND PERMITS.

(a) Applications; assembling articles for inspection: Persons intending to move or allow to be moved interstate plants and plant products for which certificates or permits are required by these regulations will make application therefor as far as possible in advance of the probable date of shipment. Applicants for inspection will be required to assemble the articles to be inspected and so place them that they can be readily examined. If not so placed, inspection may be refused. All charges for storage, cartage, and labor incident to inspection other than the services of inspectors shall be paid by the shipper.

(b) Individual packages or car lots: Certificates of inspection authorizing the interstate movement of individual packages or car lots of the articles enumerated in Notice of Quarantine No. 43 (sixth revision) may be issued under either of the following conditions: (1) When the articles to be so moved have actually been inspected and found free from infestation with the corn borer; (2) when the articles have been disinfected or treated under the supervision of an inspector in such a manner as to eliminate all risk of transmitting infestation.

(c) Uninfested premises: Certificates of inspection good for a period of 30 days from the date of inspection, authorizing the interstate movement of the articles enumerated, may be issued when the articles to be so moved have been grown on individual premises or in districts within a regulated area which have been determined by an inspector to be free from corn-borer infestation and to be maintained in such a condition of freedom from weeds and other extraneous vegetation as to prevent possibility of the appearance of the corn borer through such agencies.

(d) Dealers in shelled corn: Certificates may be issued any dealer in shelled corn, good for not to exceed 30 days from the date of inspection of his premises, in accordance with the following conditions: (1) That it shall be determined by competent inspection that said dealer maintains equipment adequate to clean shelled corn so as to eliminate cobs and debris capable of carrying the corn borer, that he operates said equipment under competent direction, and that he moves or allows to be moved interstate to points outside the regulated area only such corn as has been shelled and so cleaned; (2) that said dealer shall file with the United States Department of Agriculture a signed agreement that no corn will be moved or allowed to be moved by him or under his certificate interstate to points outside the regulated area unless and until such corn has been shelled and has been cleaned as herein required. Outstanding certificates may be withdrawn and further certification refused to any dealer who violates the said agreement or any of these rules and regulations.

(e) Articles originating outside the regulated areas: Articles of which the interstate movement is restricted by these regulations which originate outside the regulated areas may be shipped interstate from points within the regulated areas to points outside such areas under permit. Permits will be issued only for plants and plant products which are not infested with the corn borer, and transportation companies shall not accept or move interstate from within the regulated areas such plants and plant products originating outside such areas unless each shipment is accompanied by a permit issued by the United States Department of Agriculture.

REGULATION 7. MARKING REQUIREMENTS.

(a) Every car, box, bale, or other container of articles for which certificates or permits are required by these regulations shall be plainly marked with the name and address of the consignor and the name and address of the consignee, and shall bear attached to the outside thereof the proper certificate or permit issued in compliance with regulation 6 hereof.

(b) The certificates or permits in the case of carload and other bulk shipments shall accompany the waybills, conductors' manifests, memoranda, or bills of lading pertaining to such shipments.

REGULATION 8. THOROUGH CLEANING REQUIRED OF CARS, BOATS, AND OTHER VEHICLES BEFORE MOVING INTERSTATE.

Cars, boats, and other vehicles which have been used in transporting within the regulated areas plant products covered by these regulations or any other articles which may hereafter be made subject thereto shall not be moved or allowed to move interstate unless the same shall have been thoroughly swept out and cleaned by the carrier at the point of unloading or destination of all litter and rubbish from such regulated articles. No litter, rubbish, or refuse from any such plants and plant products shall be moved or allowed to move interstate.

REGULATION 9. INSPECTION OF RESTRICTED ARTICLES IN TRANSIT.

Any car, vehicle, basket, box, or other container moved or offered for movement interstate which contains or may contain articles the movement of which is prohibited or restricted by these regulations shall be subject to inspection by inspectors at any time or place.

REGULATION 10. PENALTIES FOR VIOLATION OF THESE RULES AND REGULATIONS.

Permits and certificates issued by the United States Department of Agriculture as a condition of interstate movement of plants or plant products restricted by these rules and regulations may be withdrawn and further permits and certification may be refused to any shipper who violates any of said rules and regulations.

REGULATION 11. SHIPMENTS BY THE UNITED STATES DEPARTMENT OF AGRICULTURE.

Articles subject to restriction in these regulations may be moved interstate by the United States Department of Agriculture for experimental or scientific purposes, on such conditions and under such safeguards as may be prescribed by the Plant Quarantine and Control Administration. The container of articles so moved shall bear, securely attached to the outside thereof, an identifying tag from the Plant Quarantine and Control Administration showing compliance with such conditions.

These revised rules and regulations shall be effective on and after December 16, 1929, and shall supersede the rules and regulations promulgated December 29, 1927, as amended.

Done at the city of Washington this 16th day of December, 1929.

Witness my hand and the seal of the United States Department of Agriculture.

[SEAL.]

ARTHUR M. HYDE,
Secretary of Agriculture.

[Copies of the foregoing quarantine were sent to all common carriers doing business in or through the quarantined area.]

NOTICE TO GENERAL PUBLIC THROUGH NEWSPAPERS

Notice is hereby given that the Secretary of Agriculture, under authority conferred on him by the plant quarantine act of August 20, 1912 (37 Stat. 315), as amended, has promulgated, effective December 16, 1929, a revision of the rules and regulations supplemental to Notice of Quarantine No. 43, on account of the European corn borer. This revision includes an enlargement of the areas under regulation in Connecticut, Massachusetts, Maine, New Hampshire, Vermont, Pennsylvania, Ohio, West Virginia, and Indiana. Changes in the requirements affecting the interstate movement of the restricted articles include (1) placing the limitation on the quantity of cleaned shelled corn which may be shipped without certification or other restriction at 25 pounds to the package instead of 2 pounds as heretofore; (2) allowing free movement of sweet corn on the cob from New York City during the months of May and June, the period during which no sweet corn produced within the regulated areas reaches that city; and (3) removing the special restriction applying to Maine as to entry of restricted articles from the regulated areas outside that State.

Copies of the said quarantine and of the revised rules and regulations may be obtained from the Plant Quarantine and Control Administration, United States Department of Agriculture, Washington, D. C.

ARTHUR M. HYDE,
Secretary of Agriculture.

[Published in the following newspapers: Hartford Times, Hartford, Conn., January 17, 1930; Indianapolis News, Indianapolis, Ind., January 18, 1930; Portland Press Herald, Portland, Me., January 17, 1930; Boston Herald, Boston, Mass., January 17, 1930; Detroit News, Detroit, Mich., January 17, 1930; Manchester Union Leader, Manchester, N. H., January 17, 1930; Jersey Journal, Jersey City, N. J., January 16, 1930; the World, New York, N. Y., January 17, 1930; the Dispatch, Columbus, Ohio, January 17, 1930; the Press, Pittsburgh, Pa., January 17, 1930; Evening Bulletin, Providence, R. I., January 17, 1930; Burlington Free Press, Burlington, Vt., January 17, 1930; the News, Wheeling, W. Va., January 17, 1930.]

ANNOUNCEMENTS RELATING TO JAPANESE-BEETLE QUARANTINE. (NO. 48)

NOTICE OF PUBLIC HEARING TO CONSIDER THE ADVISABILITY OF EXTENDING THE QUARANTINE ON ACCOUNT OF THE JAPANESE BEETLE TO THE STATE OF RHODE ISLAND

OCTOBER 24, 1929.

The Secretary of Agriculture has information that the Japanese beetle (*Popillia japonica* Newm.), a dangerous insect new to and not heretofore widely prevalent or distributed within and throughout the United States, and which is already known to exist in portions of the States of Connecticut, Delaware, Maryland, Massachusetts, New Jersey, New York, Pennsylvania, Virginia, and the District of Columbia, has recently been discovered also in the State of Rhode Island.

It appears necessary, therefore, to consider the advisability of revising the quarantine on account of this pest to include the State of Rhode Island within the quarantined area, and of restricting or prohibiting the movement from that State, or any infested districts determined therein, of (1) farm, garden, and orchard products of all kinds; (2) grain and forage crops of all kinds; (3) nursery, ornamental, and greenhouse stock, and all other plants; and (4) sand, soil, earth, peat, compost, and manure.

Notice is, therefore, hereby given that in accordance with the plant quarantine act of August 20, 1912 (37 Stat. 315), as amended by the act of Congress, approved March 4, 1917 (39 Stat. 1134, 1165), a public hearing will be held before the United States Department of Agriculture, Plant Quarantine and Control Administration, and Federal Plant Quarantine Board, at 1729 New York Avenue, Washington, D. C., at 10 a. m. October 31, 1929, in order that any person interested in the proposed revision of the quarantine may appear and be heard either in person or by attorney.

R. W. DUNLAP,
Acting Secretary of Agriculture.

In the press statement issued to accompany this notice of public hearing the following additional information was given:

During the past summer surveys and Japanese-beetle trapping have resulted in the determination of the establishment of the Japanese beetle in Providence, R. I., and at a number of points outside of the regulated areas in Connecticut, New York, Pennsylvania, and Maryland. In addition, beetles have been taken at Norfolk, Va., and Boston, Mass., both of which points are at a considerable distance from territory now under restriction.

Opportunity will be given at the hearing for a discussion of the territory included within the areas regulated on account of the Asiatic beetle and the Asiatic garden beetle, and for the presentation of any proposals in connection therewith which those in attendance at the hearing may desire to make.

ANNOUNCEMENTS RELATING TO MEDITERRANEAN FRUIT-FLY QUARANTINE (NO. 68)

INSTRUCTIONS TO NAVAL OFFICERS

GENERAL ORDER
No. 194

NAVY DEPARTMENT,
Washington, D. C., October 1, 1929.

PREVENTION OF SPREAD OF MEDITERRANEAN FRUIT FLY

(1) In order to prevent the spread of the Mediterranean fruit fly, a dangerous insect, new to and not heretofore widely prevalent within and throughout the United States, the Secretary of Agriculture has issued regulations to quarantine the State of Florida. Interstate movement of host fruits and vegetables from Florida into 18 Southern and Western States and into the Territory of Porto Rico is prohibited.

(2) In order to prevent the escape to an uninfested area of any fruit flies which might be taken on board, it is directed that all practicable measures be taken to the effect that no vessels of the Navy which are likely to touch United States ports of the Gulf of Mexico or the Pacific coast, or ports of North Carolina, South Carolina, Georgia, Florida, or Porto Rico take on board Florida host fruits or vegetables for any purpose. This applies to articles which have been produced in Florida, whether they are purchased in that State or elsewhere.

(3) Host fruits and vegetables include all citrus and noncitrus fruits (except watermelons, strawberries, and pineapples), also peppers of all kinds, tomatoes, Lima and broad beans, and eggplants.

C. F. ADAMS, *Secretary of the Navy.*

P. Q. C. A.—250

ADMINISTRATIVE INSTRUCTIONS

WEEKLY IN PLACE OF SEMI-WEEKLY CLEAN-UP OF GROVES AND GARDENS IN ERADICATION AREA AUTHORIZED (MODIFICATION OF REGULATIONS SUPPLEMENTAL TO NOTICE OF QUARANTINE No. 68)

(Approved October 11, 1929; effective October 11, 1929)

Pending later amendment of the Mediterranean fruit-fly quarantine regulations, section A (3) of regulation 3 thereof is hereby modified to provide for the weekly (in place of semi-weekly) clean-up and destruction of drops and wind-falls of host fruits, and of ripening vegetables and drops in the fields.

This order is subject to cancellation or further modification should the discovery of infestations or other conditions make such action necessary to effect the eradication or prevent the spread of the Mediterranean fruit fly.

C. L. MARLATT,
Chief, Plant Quarantine and Control Administration.

Approved:

C. F. MARVIN,
Acting Secretary of Agriculture.

P. Q. C. A.—251

ADMINISTRATIVE INSTRUCTIONS

STERILIZATION REQUIREMENTS MODIFIED AS TO AREAS HITHERTO DESIGNATED AS INFESTED

(Approved October 12, 1929; effective October 12, 1929)

[(1) Modification of paragraph 5 (a) of Section A of regulation 3 under Quarantine No. 68, revised]

Pending later amendment of the Mediterranean fruit-fly-quarantine regulations, paragraph 5 (a) of Section A of regulation 3 is amended to read:

Host fruits produced in infested areas: Sterilization shall be required as a condition of movement of fruit produced in areas which have at any time been determined as infested, unless and until such areas are, with the approval of the Plant Quarantine and Control

Administration, released from such designation by the proper State board or officer of the State concerned. Such sterilized fruit may be authorized movement anywhere in the United States other than into the States and Territory listed below in paragraph (b) (i).

This modification consists in the provision now made for the release from such designation of areas which have been, or may be, designated as infested. Such release will be made upon the determination by the Plant Quarantine and Control Administration that, as a result of the enforcement of control measures required under Quarantine 68, the Mediterranean fruit fly apparently has been eradicated as to such area or areas. Such release shall be further conditioned on the lapse of a period without reappearance of the fruit fly sufficient, in the judgment of the administration, to justify such action. The effect of such release will be to remove the requirement of sterilization when fruit from such areas is to be moved to destinations northeast of Potomac Yards, Va., but all other requirements applying to eradication areas will be retained.

[(2) Releases now authorized]

The State Plant Board of Florida is hereby authorized to release from such designation all areas heretofore determined or designated as infested, except as to areas within which infestations have been determined subsequent to July 31, 1929. Any areas released under this authorization shall be retained as part of the "eradication area" and as such shall continue subject to all the conditions applicable to such eradication area prescribed under Federal and State Mediterranean fruit-fly quarantines.

C. L. MARLATT,

Chief, Plant Quarantine and Control Administration.

Approved:

ARTHUR M. HYDE,
Secretary of Agriculture.

USE OF HEAT FOR STERILIZING FLORIDA GRAPEFRUIT AUTHORIZED

(Press notice)

OCTOBER 23, 1929.

The use of heat sterilization for Florida grapefruit as a condition of interstate movement is authorized in connection with packing houses in that State in administrative instructions amending the quarantine on account of the Mediterranean fruit fly issued to-day by the Secretary of Agriculture. * * *

It should be distinctly understood, the department says, that neither this nor any other method of sterilizing host fruits and vegetables from Florida, is being given to infested fruit or vegetables. All fruits or vegetables in infested blocks are excluded from commercial shipment or other movement and are promptly destroyed. Sterilization is merely an added precaution over orchard and packing-house inspection to eliminate any residual risk of spread of the pest. The authorization of this method of sterilizing grapefruit is released at this time in response to the earnest requests of the growers, packers, and shippers concerned.

P. Q. C. A.—252

ADMINISTRATIVE INSTRUCTIONS

STERILIZATION OF GRAPEFRUIT BY USE OF HEAT UNDER MEDITERRANEAN FRUIT-FLY REGULATIONS

(Approved October 23, 1929; effective October 23, 1929)

Administrative instructions (P. Q. C. A. 246) issued September 19, 1929, on the "Sterilization of citrus fruits under Mediterranean fruit-fly regulations" authorized the sterilization of citrus fruits by the use of low temperatures. At the time these instructions were issued sufficient information was not available to authorize the use of heat for sterilizing citrus fruit. Investigations and tests on the commercial practicability of the use of heat as a means of sterilizing such fruit have been conducted as rapidly as possible. The commercial tests so far conducted have been confined to grapefruit, since oppor-

tunity has not permitted carrying on tests on carload lots of oranges. In connection with these tests a number of car lots of grapefruit sterilized by heat have been shipped and successfully marketed in eastern and midwestern cities. These shipments contained less than the usual amount of unsalable fruit and, together with the experiments conducted in Florida, seem to clearly indicate that it is commercially practicable to modify, for grapefruit, the coloring process to secure the temperature required to kill any eggs or larvæ of the Mediterranean fruit fly, the presence of which in any orchard may have escaped discovery in the intensive grove and packing-house inspections.

The following method of sterilizing grapefruit is, therefore, authorized:

Heating, in connection with the usual coloring process, the fruit to a temperature of 110° F. or above (not to exceed 115°) in the approximate center of the fruit and holding the temperature of 110° or above (not to exceed 115°) for a period of eight hours.

No specifications as to the exact methods and equipments for obtaining these conditions are prescribed. Available information clearly indicates that by the application of dry heat the required temperatures can not be reached without injury to the fruit. To prevent such injury it is necessary to maintain a very high humidity throughout the period of treatment. In the tests where successful performance was obtained, live steam as the source of heat was applied in such a way as to secure as nearly as possible a uniform distribution of steam-heated air so directed as not to discharge directly on the fruit. In these tests the coloring was followed by the application of the high temperature necessary for sterilization. The air temperature ranged from 115° to 116° F., and the air was very moist so that the humidity was practically 100 per cent. The fruit was held in field boxes stacked four boxes high, with narrow aisles between, and without special means of separating the boxes in each stack.

While the results of the experiments so far conducted have been successful, it should be emphasized that inexactness and carelessness in operation may result in injury to fruit. On the other hand, available information indicates that the fruit will not be injured at temperatures slightly higher than 110° F. In authorizing the movement of fruit sterilized in accordance with the above requirements it is to be understood that the department does not assume responsibility for fruit injury.

C. L. MARLATT,

Chief, Plant Quarantine and Control Administration.

Approved:

ARTHUR M. HYDE,

Secretary of Agriculture.

NOVEMBER 12, 1929.

P. Q. C. A.—253

ADMINISTRATIVE INSTRUCTIONS

AUTHORIZATION OF TRANSPORTATION OF FLORIDA HOST FRUITS AND VEGETABLES FROM THE DISTRICT OF COLUMBIA TO NEAR-BY POINTS IN VIRGINIA

[Modification of paragraph 2, regulation 11, under Quarantine No. 68, revised]

(Approved November 12, 1929; effective November 13, 1929)

Pending later amendment of the Mediterranean fruit fly quarantine regulations, paragraph 2 of regulation 11, is modified to authorize the transportation of Florida host fruits and vegetables from the District of Columbia into Arlington and Fairfax Counties, Va., and into the city of Alexandria, Va., provided that such movement into the area concerned shall consist wholly of small quantities for local utilization and consumption and that host fruits and vegetables so transported into that area shall not be reshipped or otherwise transported from the counties and city named into or through other parts of the State of Virginia.

C. L. MARLATT,

Chief, Plant Quarantine and Control Administration.

Approved:

R. W. DUNLAP,

Acting Secretary of Agriculture.

MOVEMENT AUTHORIZED OF STERILIZED HOST FRUITS AND VEGETABLES FROM
FLORIDA TO OTHER SOUTHERN AND WESTERN STATES

(Approved November 18, 1929; effective November 21, 1929)

[Modification of Section A (5) of regulation 3, under Quarantine No. 68,
revised]

Pending later amendment of the Mediterranean fruit-fly-quarantine regulations, Section A (5) of regulation 3 is amended to read:

(5) Fruit and vegetable sterilization: All host fruits and vegetables packed, sold, stored, or transported shall, under the supervision of and satisfactory to the inspector, be sterilized, either by heating, by refrigeration, or by other approved treatment in such manner and method as shall be prescribed by the Plant Quarantine and Control Administration.

Provided, That pending the determination with respect to the methods of sterilization herein indicated of any adjustments necessitated by varietal and seasonal conditions of fruits and vegetables, or pending such packing-house adjustments as may be necessary to take advantage of such sterilization, shipments may be authorized as follows:

(a) Host fruits produced in infested areas: Sterilization shall be required as a condition of movement of fruit produced in areas which have at any time been determined as infested, unless and until such areas are or have been, with the approval of the Plant Quarantine and Control Administration, released from such designation by the proper State board or officer of the State concerned. Sterilized fruit from unreleased infested areas may be authorized movement anywhere in the United States other than into the following States and Territory: Alabama, Arizona, Arkansas, California, Georgia, Idaho, Louisiana, Mississippi, Nevada, New Mexico, North Carolina, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Utah, Washington, and the Territory of Porto Rico.

(b) Sterilized host fruits produced within an infested State, other than as to designated infested areas, and shipped in containers each of which bears a label affixed to the outside thereof under authority of the United States Department of Agriculture certifying that the contained fruit has been sterilized, may be authorized interstate movement anywhere in the United States and shall have full diversion and storage-in-transit privileges except as follows:

(i) Host fruits may be authorized movement into the Southern and Western States named in paragraph (a) hereof only for the period from November 21, 1929, to January 31, 1930, inclusive (subject to later extension for one additional month if such extension in the judgment of the United States Department of Agriculture does not involve risk of spread of the Mediterranean fruit fly); and during that period host fruits which have been sterilized and are so labeled may be reshipped between such Southern and Western States.

(ii) Host fruits which have originated in and moved from an infested State into the area north of and including the States of Virginia, Kentucky, Missouri, Kansas, Colorado, Wyoming, and Montana shall not thereafter be reshipped or otherwise transported or offered for shipment into the Southern and Western States named in paragraph (a) hereof.

(iii) Host fruits originating within an infested State shall not be moved or allowed to be moved directly or indirectly into the Territory of Porto Rico.

(c) Unsterilized host fruits produced in eradication areas, other than in designated infested areas, may be authorized movement only (i) to the District of Columbia, including Potomac Yards in Virginia, and to destinations in the States of Maryland, Pennsylvania, and States north and east thereof, including shipment via any of such States to foreign countries, or (ii) to designated cold storages for sterilization.

(d) Unsterilized host fruits produced in an infested State outside of eradication areas may, until further notice, be authorized movement anywhere in the United States other than into the States and Territory listed above in paragraph (a). Until further notice, this restriction as to destination shall not apply to sour limes produced in Dade and Monroe Counties, Fla.

(e) Peppers and Lima and broad beans produced in eradication areas may be authorized movement only to the District of Columbia, including Potomac Yards in Virginia, and to destinations in the States of Maryland, Pennsylvania, and States north and east thereof, including shipments via any of such States to foreign countries.

(f) Peppers and Lima and broad beans produced outside of eradication areas may be authorized movement throughout the United States other than into the States and Territory listed in paragraph (a).

(g) Tomatoes produced in eradication areas and shipped green may be authorized movement throughout the United States other than into the States and Territory listed in paragraph (a). Tomatoes produced outside of eradication areas and shipped green may be authorized movement throughout the United States, except into the Territory of Porto Rico.

(h) Eggplants produced anywhere in an infested State may be authorized movement throughout the United States other than into the States and Territory listed in paragraph (a).

(i) Diversion privileges: The limitations on movement prescribed herein will be interpreted to allow the movement, under the conditions prescribed in the regulations, of host fruits and vegetables (except as to unsterilized fruit produced in eradication areas) from Florida via the usual diversion points in the States of Alabama, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee for immediate diversion at such points to any point in the destination areas authorized in the quarantine regulations: *Provided*, That the way-bills of all cars containing host fruits and vegetables not authorized movement into the Southern and Western States named in paragraph (a) and consigned to diversion points in such States shall bear a notation reading as follows: "This car must be diverted to destinations in the States north of and including the States of Virginia, Kentucky, Missouri, Kansas, Colorado, Wyoming, and Montana."

Administrative Instructions P. Q. C. A. 244 are hereby canceled.

C. L. MARLATT,

Chief, Plant Quarantine and Control Administration.

Approved:

R. W. DUNLAP,

Acting Secretary of Agriculture.

P. Q. C. A.—255

ADMINISTRATIVE INSTRUCTIONS

STERILIZATION OF ORANGES, TANGERINES, AND SATSUMAS BY USE OF HEAT UNDER MEDITERRANEAN FRUIT-FLY REGULATIONS

(Approved November 27, 1929; effective November 27, 1929)

Administrative Instructions (P. Q. C. A. 252), issued October 23, 1929, authorized the use of heat for the sterilization of grapefruit moving interstate under the regulations on account of the Mediterranean fruit fly. These instructions also indicated that this method of sterilization might, on the completion of commercial tests, be extended to include oranges and related citrus fruits. Approximately 140 car lots of oranges, including some tangerines and satsumas, have been successfully marketed after being sterilized by the heat method authorized for grapefruit. Sterilization by the use of heat as prescribed in Administrative Instructions, Circular P. Q. C. A. 252, is hereby authorized as a basis of the issuance of permits for the interstate movement of oranges, tangerines, and satsumas. The conditions included in the said Administrative Instructions shall, in all particulars, apply to the use of heat in treating oranges, tangerines, and satsumas.

C. L. MARLATT,

Chief, Plant Quarantine and Control Administration.

Approved:

ARTHUR M. HYDE,

Secretary of Agriculture.

P. Q. C. A.—256

ADMINISTRATIVE INSTRUCTIONS

RELEASE OF CERTAIN AREAS DESIGNATED AS INFESTED UNDER THE MEDITERRANEAN FRUIT-FLY QUARANTINE REGULATIONS

[Supplementing P. Q. C. A. 251 and paragraph 5 (a) of section A of regulation 3 under Quarantine No. 68, revised]

(Approved November 30, 1929; effective December 2, 1929)

In response to a request received from the State Plant Board of Florida, such board is authorized to release from designation as infested areas all the areas—eight in number—in which infestation was discovered subsequent to July 31

and up to and including August 27, 1929. This order has the effect of eliminating the requirement of sterilization with respect to fruit from such areas which is to be moved to destinations northeast of Potomac Yards, Va.

The infestation in these eight areas was very trivial. In only one instance, where two fruits were concerned, was more than one fruit infested. Under the rule, however, requiring the inclusion in the area designated as infested of at least 1 mile beyond the actually infested property for the purpose of clean-up, spraying, and subsequent controls, these areas now released represent from 3 to 5 square miles each, scattered in various parts of central Florida. In five of these areas the last infestation found was discovered during the first seven days of August, and in the other three of these locations the discoveries were made on August 13, 14, and 27, respectively. The latest of these infestations has therefore been subject to intensive clean-up and eradication measures for a period of three months since the fruit fly was discovered there, and all of them have substantially the same status as to eradication as the areas released from designation as infested in the order of October 12, 1929 (P. Q. C. A. 251).

All areas released under this and previous authorizations shall be retained as part of the "eradication area," and as such will be subject to all the conditions applicable to such eradication area prescribed under Federal and State Mediterranean fruit-fly quarantines.

C. L. MARLATT,
Chief, Plant Quarantine and Control Administration.

P. Q. C. A.—257

DECEMBER 17, 1929.

INSTRUCTIONS TO INSPECTORS RE INTERSTATE SHIPMENTS OF CELERY FROM FLORIDA

The normal conditions under which celery is produced and packed for interstate movement from Florida make it very unlikely that the small amount of soil which may adhere to the roots would contain pupæ of the Mediterranean fruit fly. Regulation 6, Notice of Quarantine No. 68, on account of the Mediterranean fruit fly, under which the interstate movement of sand, soil, and earth from the eradication area is restricted, is not to be interpreted as applying to celery with the usual small amount of soil attached to the roots and base of the plants. Interstate movement without washing is authorized, based on the fact that the State Plant Board of Florida will not permit host fruits or vegetables to reach a stage of maturity when they would be susceptible to infestation on properties on which celery is produced for commercial shipment. Celery produced on properties within the eradication area on which host fruits or vegetables are allowed to develop to a stage in which they may be susceptible to attack by the fruit fly or on which, in the judgment of the inspector, other conditions are such as to make it impossible to eliminate the danger of fruit fly puparia occurring in the soil will, prior to interstate shipment, be washed or treated in such a manner as to remove all soil.

LEE A. STRONG,
Chief, Plant Quarantine and Control Administration.

P. Q. C. A.—258

ADMINISTRATIVE INSTRUCTIONS

CONTAINERS AUTHORIZED FOR INTERSTATE MOVEMENT OF FLORIDA HOST FRUITS AND VEGETABLES

[Interpretation of regulation 4, paragraph 5, under Notice of Quarantine No. 68]

(Approved December 26, 1929; effective December 26, 1929)

The requirement that host fruits and vegetables moved from an infested State shall be packed in standard commercial containers is interpreted to authorize the shipment of such fruits or vegetables in any container which (a) has customarily been used in the past for the commercial shipment of such fruits and vegetables, and (b) is of such a nature as clearly to indicate the fact that host fruits or vegetables are contained therein.

LEE A. STRONG,
Chief, Plant Quarantine and Control Administration.

REPORT OF SPECIAL COMMITTEE TO STUDY STATUS AND NEEDS OF MEDITERRANEAN FRUIT-FLY CAMPAIGN

(Press notice)

OCTOBER 28, 1929.

The Secretary of Agriculture releases herewith a report of a special committee on the Mediterranean fruit-fly campaign in Florida. This committee was selected at the suggestion of the Secretary under the direction of William R. Wood, chairman of the Appropriations Committee of the House, to secure the latest information for the use of that committee. This report presents an additional, independent, and recent judgment of the work and its future needs. The personnel of this committee was as follows: W. O. Thompson, president emeritus of Ohio State University; W. C. Reed, commercial fruit grower of Vincennes, Ind.; W. P. Flint, chief entomologist of the Illinois Natural History Survey; W. H. Alderman, head of the department of horticulture, University of Minnesota; and J. J. Davis, head of the department of entomology, Purdue University.

WASHINGTON, D. C., October 22, 1929.

HON. ARTHUR M. HYDE,

Secretary of Agriculture, Washington, D. C.

SIR: Your committee appointed to make a study of the Mediterranean fruit fly in Florida, with special reference to progress of the work the past three months, the possibilities of eradication, and the future needs so far as determined at the present time, reports as follows:

In order to be familiar with the problem, the committee spent the past week in Florida, during which time 1,300 miles through the infested and outlying areas were covered and many citizens of Florida interviewed.

We concur with the report of your committee of seven regarding the economic importance of the insect and the need for eradication. The Mediterranean fruit fly should be recognized as a potential pest of very great importance to the fruit industry of the Southern States; also the results to date clearly forecast the possibility of complete eradication in Florida and this goal should be vigorously sought. We commend the work of the research and control forces, the former for the progress made in the short period since the discovery of the infestation April 6, 1929, with attractants, poison sprays, host-plant studies, and fruit sterilization; the latter for the apparent thoroughness and completeness of the quarantine and eradication work. We likewise commend the cooperation of the growers and the sacrifices which they have made in destroying hundreds of thousands of boxes of fruit in order to aid in the eradication. A study of the activities of the research and control forces and the expenditures to date show an economical and efficient use of the funds available.

PROGRESS OF ERADICATION AND NEEDS FOR THE FUTURE

The research division has made fundamental studies which have had an important bearing on the conduct of the eradication program of the past six months, and which will have an increasing value for any future program of control or eradication. A study of wild fruits, including the period of maturing and susceptibility to fly attack, has revealed facts which will enable a continuation of the eradication program and elimination—for the present, at least—of work which would cost many millions of dollars. The studies of cold and heat sterilizing processes which will permit uninterrupted shipment of citrus fruits has been basic and seems to assure the development of methods which will not only eliminate the danger of spread but may improve the color and reduce rots over previous commercial methods. The finding and utilization of a poison spray to destroy the flies was doubtless one of the chief factors in bringing about the present apparent absence of infestation. Evidences of temporary injury by this spray to the citrus tree and its fruit were apparent, especially in groves where the grower has been unable to finance proper upkeep, but further studies now under way indicate the possibility of the development of a safe and equally effective spray. Bait traps are now useful only in detecting infestations—an important use—since the kerosene attractant used will attract only male flies. Continued studies may reveal an attractant to which females as well as males will respond. These developments reveal important leads, and research along these and other lines are essential for the eradication program

which has been so effective during the first six months of the campaign. A study of the canning industry, with special reference to the utilization of by-products and its bearing on fruit-fly control, would seem to be a very desirable addition to the research program.

The eradication division involves many important features. From an infestation where hundreds of flies could be obtained with a few sweeps with a net and where infested fruit was common, to a point where all methods of trapping fail to catch a single fly and where no fruit infestation can be located in spite of diligent and extensive search, is little less than marvelous. Weather conditions may have assisted in reducing the infestation, but a study of all the data clearly shows that the complete destruction of fruits in the infested zones and the thorough use of poison sprays have been largely responsible. That infestations have not been found in adjoining States where much fruit was shipped previous to the discovery of the infestation, nor in the known infested area, are facts difficult to explain. That infestations will be found, at least in the original infested zones, before the end of June, 1930, seems almost certain. For this reason sufficient funds should be immediately available for stamping out incipient outbreaks should they appear. A continuation and enlargement of the inspection and scouting work is essential to discover any occurrences of the fly before they become conspicuous. Spraying should be continued in the vicinity of citrus groves where injury to the trees and shrubs is not likely to result. The complete destruction of "drops" and the inauguration of a host-free period (approximately April 1 to September 1) by removal of the citrus and other susceptible fruits, such as peach, pear, guava, and Surinam cherry, seems to be an important feature of the eradication program. Destruction of abandoned groves is likewise important in the proposed program of eradication.

A very thorough study of wild native host fruits in 600 square miles of wild, natural growths, exclusive of abandoned groves, has failed to reveal a single infested fruit. For this reason, and until such findings are made, we believe a general clean-up in such areas unnecessary. This will materially reduce the cost of an efficient eradication campaign.

An important part of the project is the quarantine which involves the possible spread of the fly by means of public carriers. This work has been admirably accomplished by the National Guard of Florida. The utilization of the State National Guard for the enforcement of quarantines has never before been attempted and the methods and effectiveness of this organization for quarantine duty where a single State is involved are heartily indorsed. The enforcement of garbage disposal, screening of fruit stands and fruit delivery wagons, is important from the standpoint of eradication and should continue as a phase of the quarantine under the supervision and control of the State National Guard.

Many who have objected to one or another phase of the fruit-fly project were interviewed, but after discussion and conference a distinct majority were in favor of a continuation of the research and eradication work on a reasonable basis. It was apparent that the comparatively few who questioned the need or efficiency of the work usually did so because they were uninformed on the significance of the Mediterranean fruit fly should it become established and beyond control, and on the immensity of a program of eradication. For these reasons we believe better methods of fully informing the public should be used and that an efficient program of education be inaugurated.

The appropriations already made for the eradication program have been so effectively used that infestation is not now apparent. The failure to continue the program of eradication as a measure of precaution might threaten the efficiency of the work already accomplished. In addition, an emergency fund as a reserve might well be provided and made available only in case of new outbreaks in outside areas which would constitute emergencies.

The committee desires to express its appreciation for the active and willing cooperation on the part of the Federal, State, and county officials in the inauguration and prosecution of the eradication program.

W. O. THOMPSON,
Chairman.

WILLIAM C. REED.
W. H. ALDERMAN.
W. P. FLINT.
J. J. DAVIS,
Secretary.

CONFERENCE OF FEDERAL AND STATE OFFICIALS CALLED TO DISCUSS MOVEMENT OF FLORIDA CITRUS FRUIT UNDER STERILIZATION INTO SOUTHERN AND WESTERN MARKETS DURING WINTER

(Press notice)

NOVEMBER 12, 1929.

The authorization of movement of Florida citrus fruit under sterilization into southern and western markets during the winter period is the subject of a conference announced to-day by the Plant Quarantine and Control Administration of the United States Department of Agriculture. The conference is to be held Saturday, November 16, at 10 a. m., at 1729 New York Avenue NW., Washington, D. C. An invitation is being extended by the Department of Agriculture to the appropriate officers of the States into which such fruit would move to attend such conference for the purpose of reviewing with the department's specialists the data which has led the department to the conviction that, under present conditions, and under the requirements of sterilization and control of movement, any risk of spread of the fruit fly is eliminated.

The Plant Quarantine and Control Administration says that such movement was provided for in the revision of the fruit-fly quarantine of September 1, but its immediate application was deferred awaiting the demonstration of the commercial practicability of the methods of sterilization, and the development, in connection with the packing houses of Florida, of approved equipment for such sterilization adequate to warrant the enlargement of marketing privileges now being considered. Several hundred carloads of fruit have already been handled successfully under sterilization, and facilities are now available in Florida for the sterilization, by the heat method, of upwards of 50 carloads of fruit per day, and equipment for such treatment is being rapidly increased. Sterilization by refrigeration is also available in Florida, but it is expected that the bulk of the movement will be under the heat treatment.

The Plant Quarantine and Control Administration says that under the requirements of the quarantine all orchards are kept under intensive inspection and that all fruit in any block or area in which infestation may be determined is to be promptly destroyed. Sterilization is therefore an additional safeguard applied to all fruit subject to the movement under consideration to eliminate any residual risk.

In the last two months and a half no infested fruit has been found in Florida nor have any fruit flies been taken in the thousands of traps distributed for that purpose. Although this situation does not mean that the fruit fly has been eliminated from Florida, it does mean that the success of the eradication effort has been notable and the Department of Agriculture hopes that any reappearance will be of minor character and, under the intensive inspection which is being maintained, will be promptly discovered and cleaned up.

HEAT STERILIZATION OF CITRUS FRUIT

The requirements for sterilization by heat, as given in Plant Quarantine and Control Administration Instructions No. 252, are as follows:

Heating, in connection with the usual coloring process, the fruit to a temperature of 110° F. or above (not to exceed 115°) in the approximate center of the fruit and holding the temperature of 110° or above (not to exceed 115°) for a period of eight hours.

It is obvious that to hold fruit at this temperature for so long a period requires careful attention to and close regulation of the conditions in the rooms if the fruit is to remain uninjured.

The essentials of sterilization without injury to the fruit are that the air in the room be saturated with water at all times and that the fruit should not be heated to too high a temperature nor too long. Temperatures of 115° F. or above are very liable to injure citrus fruit, and with proper equipment it is not necessary to carry the temperature so high at any time. The fruit should all be brought to a temperature of 110° without raising the temperature of any of it to more than 112°. Of course, under some conditions and with certain kinds of fruit, it has been possible to heat fruit to temperatures of 115°, and even 120°, without injury, but these temperatures are dangerous and in most cases will cause injury.

Injury to the fruit is usually evident in loss of oil from the oil vesicles of the rind, burning of the rind, injury around the stem of the fruit, and the general drying out and burned appearance of the surface of the fruit. If the fruit is killed it may take on a water-soaked scalded appearance. Injury to the

interior of the fruit is liable to occur as an off flavor, which makes the fruit distasteful.

Fruit should not be heated up too slowly. Long heating at temperatures around 110° F. injures the fruit, and much the same damage may occur to the fruit when it is held too long in the processing room, as occurs when it is heated to too high a temperature. Frequently, when fruit is heated a long time, the temperature of some of the fruit soon rises to around 110°, while fruit in other portions of the room is at considerably lower temperatures. This may result in holding some of the fruit at temperatures of 110° or 112° for as much as 15 to 18 hours before the treatment is completed with all the fruit. It is important, then, that not more than 12 hours should be required to bring the fruit up to the holding period, and 14 hours is about the longest period that should be allowed. Bringing the fruit up to the holding period in 6 to 8 hours, if this can be done without raising the air temperature too high, is highly desirable.

In heating the fruit it is practically essential that the air should be saturated with water vapor at all times. Air, with even a slight moisture deficit is a drying air and liable to dry out the peel and wither the fruit. It is also much easier to heat the fruit up with moist air than it is with dry air, as moist air carries much more heat per unit volume and will not dry out the skin of the fruit. It, of course, requires a large amount of heat to bring a carload of fruit from a temperature of 60° to 110° F. It therefore requires a large volume of saturated air at the proper temperature to furnish the heat to the fruit. The saturated air should be supplied in a volume of 5,000 to 6,000 cubic feet of air per minute under low static head, and the equipment should be so constructed that the air is spread out all over the room so that the fruit in all parts of the room will receive practically the same amount of heat in the same length of time and the fruit will be evenly heated and none overheated.

The air should be conditioned; that is, brought to the proper temperature and humidity in the conditioning chamber before it is allowed to come in contact with the fruit. Steam is the most convenient method of carrying heat to the room, and steam under low pressure has a temperature of 212° to 240° F. If steam at these temperatures is allowed to come in direct contact with the fruit it is liable to injure it, and unless the steam is thoroughly mixed with water vapor so that it is all cooled down to a temperature of 110° to 112° F., there is danger that some portions of the mixture might be at a temperature sufficiently high to cause damage to the fruit. If, however, the air is saturated and conditioned before it is allowed to enter the room and kept at a temperature not higher than 110° or 112°, there is no danger of damage to the surface of the fruit.

The importance of a large volume of air under pressure is obvious when it is considered that it must be forced down through stacks of field boxes four high packed solidly throughout the room. If the volume of air and pressure are insufficient and the distribution throughout the room faulty, the fruit will not be heated evenly, and some of the fruit may reach 110° F. hours before the fruit in other parts of the room is raised to this temperature. Inasmuch as this method of sterilization requires that all the fruit be heated up to 110° and held at that temperature for a period of 8 hours, it is obvious that if the fruit is not heated evenly some of the fruit may be held at that temperature for 10, 12, or 14 hours. This uneven heating, due to poor distribution of heat throughout the room, or defects in the room itself, is one of the most prolific sources of injury.

In a well-equipped room, properly handled, it is possible to heat a carload of fruit; that is, 400 field boxes, from 60° to 110° F. and hold it at this temperature for eight hours with a variation of not more than 2° between the coldest and warmest fruit in the room at any one time. There is practically no danger of injury to grapefruit or oranges processed in this way. There may be, however, an off flavor in the fruit immediately after it is removed from the room. After it has been cooled and held for a few days this off flavor disappears, so that with good fruit properly processed there is practically no difference in flavor between processed and unprocessed fruit from the same tree. This point has been established by a series of careful investigations of fruit from various localities in different types of rooms. With the flat, insipid fruit which is commonly found in the eradication area, the processing properly done neither improves nor injures the flavor. The generally poor flavor of fruit from the eradication area is not due to sterilization.

Hundreds of carloads of both grapefruit and oranges have been sterilized and marketed this season. There has been surprisingly little decay in the sterilized fruit, much less, as a rule, than in comparable cars of unsterilized

fruit on the northeastern markets. The process also improves the color of early-season grapefruit which has been colored by ethylene or stove gas. The decrease in decay and the better color are, of course, distinct advantages in marketing the fruit.

Fruit which has been colored should not be processed immediately after coloring, but the gas should be blown out of the room and the fruit allowed to air for two or three hours before the heating is begun. If the coloring is done in the processing room it is well to turn on the blowers without any heat and circulate the air thoroughly through the room until all gas fumes are removed. This may require several hours, but should be done before attempting to process by heat. This precaution is especially necessary in fruit colored with ethylene. If properly handled, colored grapefruit and oranges can be processed without danger of injury. With tangerines, however, there is considerable danger of injury if they are colored before processing. A number of lots of tree-colored tangerines have been sterilized successfully, however.

It should be remembered in the sterilization of citrus fruit by this method that the fruit should not go above 112° F. and not higher than 115° under any consideration. It should not require more than eight hours to bring the fruit up to 110°, and under no consideration should it be allowed to stay in the room more than 22 hours. The air in the room should be saturated at all times during the processing.

LON A. HAWKINS,
Principal Physiologist.

ORLANDO, FLA., December 27, 1929.

ANNOUNCEMENTS RELATING TO NURSERY STOCK, PLANT, AND SEED QUARANTINE (NO. 37)

INSTRUCTIONS TO COLLECTORS OF CUSTOMS (T. D. 43579)

PLANT QUARANTINE—LILY BULBS

[Inspection and release by United States plant quarantine inspector at Vancouver, British Columbia, of shipments of lily bulbs to be imported into the United States].

TREASURY DEPARTMENT,
OFFICE OF THE COMMISSIONER OF CUSTOMS.
Washington, D. C.

To Collectors of Customs and Others Concerned:

The department is advised by the Plant Quarantine and Control Administration of the United States Department of Agriculture that arrangements have been made whereby a plant quarantine inspector stationed at Bellingham, Wash., will visit Vancouver, British Columbia, for the purpose of inspecting and releasing consignments of lily bulbs (l. c. l. or carload shipments covered by inward foreign manifests, certified by United States customs or consular officers) to be imported into the United States.

The plant quarantine inspector will make notation on the corresponding inward foreign manifest to the effect that the shipment concerned has been inspected and released, and collectors of customs at frontier ports are hereby instructed to accept such notations, in so far as the jurisdiction of the Plant Quarantine and Control Administration is concerned, as authority for the admission thereof into the United States. Collectors of customs at ports of destination designated in the manifests should also accept such notations as indicating that the shipments have been released by the Plant Quarantine and Control Administration.

Shipments of other plants or plant products subject to plant quarantine restrictions, as well as consignments of lily bulbs not inspected and released in accordance with the foregoing, will be admitted to entry only upon compliance with the requirements of article 512 of the Customs Regulations of 1923 and will be governed by the provisions of articles 510 to 516 of the Customs Regulations.

F. X. A. EBLE,
Commissioner of Customs.

(92655-19.)

Approved October 2, 1929:

A. W. MELLON,
Secretary of the Treasury.

ANNOUNCEMENTS RELATING TO PHONY-PEACH-DISEASE QUARANTINE (NO. 67)

MODIFICATION OF PHONY-PEACH-DISEASE-QUARANTINE REGULATIONS

INTRODUCTORY NOTE

The amendment which follows is necessitated by the discovery of a small number of phony-peach-disease infections in commercial orchards of Georgia and Alabama outside the areas previously brought under regulation to prevent the spread of this disease. Nineteen counties of Georgia and six of Alabama are added to the regulated area at this time.

The surveys of the Bureau of Plant Industry reveal only a limited number of recent infections in these districts. The infected trees discovered have been or are being destroyed as rapidly as found. In order to protect the zone in which the infection is slight and where intensive eradication operations are in progress, the department, under this amendment, is dividing the regulated areas into two sections, which will be known as the "generally infected area" and the "lightly infected area," respectively. The movement of peach nursery stock and other restricted articles from either area to outside points and from the generally infected area to the lightly infected area is prohibited except under permit. It is the expectation that as the surveys continue and the intensive eradication operations are undertaken closer to the center of infection, the lightly infected area can gradually be expanded to include the counties in which substantial progress is being made toward the eradication of the disease. At this time all the counties in which infection has been found for the first time during 1929 are being placed within the lightly infected area, except Chambers County, Ala., where the disease was found more prevalent than in the others, and Warren and McDuffie Counties, Ga., which are isolated from the other lightly infected counties and are contiguous to the generally infected territory. These three counties are accordingly being added to the generally infected area.

C. L. MARLATT,
Chief, Plant Quarantine and Control Administration.

AMENDMENT NO. 1 TO RULES AND REGULATIONS SUPPLEMENTAL TO NOTICE OF QUARANTINE NO. 67

(Approved October 30, 1929; effective November 1, 1929)

Under authority conferred by the plant quarantine act of August 20, 1912 (37 Stat. 315), as amended by the act of Congress approved March 4, 1917 (39 Stat. 1134, 1165), it is ordered that regulations 3 and 5 of the rules and regulations supplemental to Notice of Quarantine No. 67, on account of the phony-peach disease, which were promulgated April 30, 1929, be, and the same are hereby, amended to read as follows:

REGULATION 3. REGULATED AREAS.

(1) In accordance with the proviso to Notice of Quarantine No. 67, the Secretary of Agriculture designates as regulated areas the following counties, including all cities, towns, townships, and other political subdivisions within their limits:

Alabama: Counties of Calhoun, Chambers, Cherokee, Cleburne, DeKalb, Lee, and Tuscaloosa.

Georgia: Counties of Baker, Baldwin, Banks, Bartow, Barrow, Bibb, Bleckley, Butts, Calhoun, Carroll, Campbell, Chattahoochee, Chattooga, Cherokee, Clarke, Clayton, Cobb, Coweta, Crawford, Crisp, Dade, DeKalb, Dooly, Dougherty, Douglas, Fayette, Floyd, Fulton, Greene, Gwinnett, Habersham, Hancock, Haralson, Harris, Heard, Henry, Houston, Jackson, Jasper, Jones, Lamar, Laurens, Lee, Macon, Marion, McDuffie, Meriwether, Milton, Mitchell, Monroe, Morgan, Muscogee, Newton, Oconee, Oglethorpe, Paulding, Peach, Pike, Polk, Pulaski, Putnam, Quitman, Randolph, Rockdale, Schley, Spalding, Stewart, Sumter, Talbot, Taliaferro, Taylor, Terrell, Troup, Twiggs, Upson, Walker, Walton, Warren, Washington, Webster, Whitfield, Wilkinson, and Worth.

(2) For the purpose of regulating inspection and transportation the counties designated above are divided into two areas to be known as the generally infected area and the lightly infected area, respectively.

(3) The following counties comprise the lightly infected area:

Alabama: Counties of Calhoun, Cherokee, Cleburne, DeKalb, and Tuscaloosa.
Georgia: Counties of Banks, Bartow, Campbell, Carroll, Chattooga, Cherokee, Cobb, Dade, Douglas, Floyd, Habersham, Haralson, Heard, Milton, Paulding, Polk, Walker, and Whitfield.

(4) All other counties in the regulated areas shall constitute the generally infected area.

REGULATION 5. CONTROL OF MOVEMENT OF PEACH TREES AND OTHER RESTRICTED ARTICLES.

(1) No peach trees, peach roots, nectarine trees, nectarine roots, or any kinds or varieties of trees or shrubs grafted or budded on peach or nectarine roots shall be moved or allowed to be moved interstate from the regulated areas to any point outside thereof nor from the generally infected area to the lightly infected area unless a permit shall have been issued therefor by the United States Department of Agriculture.

(2) No restrictions are placed on the interstate movement of peach or nectarine fruit, fruit pits, cuttings, scions, or other parts of peach or nectarine trees without roots.

(3) No restrictions are placed on the interstate movement of the articles enumerated from an area not under regulation through a regulated area when such movement is on a through bill of lading.

This amendment shall be effective on and after November 1, 1929.

Done at the city of Washington this 30th day of October, 1929.

Witness my hand and the seal of the United States Department of Agriculture.

[SEAL.]

R. W. DUNLAP,

Acting Secretary of Agriculture.

[Copies of the foregoing amendment were sent to all common carriers in Georgia and Alabama.]

INSTRUCTIONS TO GENERAL PUBLIC THROUGH NEWSPAPERS

Notice is hereby given that the Secretary of Agriculture, under authority conferred on him by the plant quarantine act of August 20, 1912 (37 Stat. 315), as amended, has promulgated an amendment, effective November 1, 1929, to the rules and regulations supplemental to Notice of Quarantine No. 67, on account of the phony-peach disease. This amendment modifies regulations 3 and 5 by adding 19 counties in Georgia and 6 counties in Alabama to the areas designated as regulated, dividing the regulated areas into an eradication area and a generally infested area, respectively, and restricting the movement of peach-nursery stock and certain other articles from the latter area to the former and from either area to nonregulated territory. Copies of said amendment may be obtained from the Plant Quarantine and Control Administration, Department of Agriculture, Washington, D. C.

R. W. DUNLAP,

Acting Secretary of Agriculture.

[Published in the following newspapers: Birmingham News, Birmingham, Ala., November 7, 1929; Atlanta Journal, Atlanta, Ga., November 8, 1929.]

INSTRUCTIONS TO POSTMASTERS

POST OFFICE DEPARTMENT,
THIRD ASSISTANT POSTMASTER GENERAL,
Washington, November 22, 1929.

POSTMASTER.

MY DEAR SIR: There is inclosed for your information and guidance a copy of amendment No. 1 to the rules and regulations supplemental to Notice of Quarantine No. 67 on account of the phony-peach disease, together with a supplementary press notice, effective November 1, 1929.

It will be noted that under regulation No. 5 no peach trees, peach roots, nectarine trees, nectarine roots of any kind or varieties of trees or shrubs grafted or budded on peach or nectarine roots shall be moved or allowed to be moved interstate from the regulated areas to any point outside thereof unless a permit shall have been issued therefor by the United States Department of Agriculture.

No restrictions are placed on the interstate movement of peach or nectarine fruit, fruit pits, cuttings, scions, or other parts of peach or nectarine trees without roots.

Under the provisions of paragraph 1, section 467, Postal Laws and Regulations, parcels containing any of the prohibited trees, roots, or shrubs may not be accepted for mailing from any point in the area quarantined by the order unless the articles are accompanied with the required certificate of the United States Department of Agriculture.

Very truly yours,

F. A. TILTON.

Third Assistant Postmaster General.

ANNOUNCEMENTS RELATING TO PINK-BOLLWORM QUARANTINE (NO. 52)

MODIFICATION OF PINK-BOLLWORM QUARANTINE

INTRODUCTORY NOTE

The amendment which follows adds Maricopa and Pinal Counties, Ariz., to the area designated as regulated, and is occasioned by the recent discovery of a pink-bollworm infestation in the vicinity of Phoenix, Ariz. Five counties in Arizona are now within the quarantined area. No extension of the regulated areas within the States of Texas and New Mexico is involved.

C. L. MARLATT,

Chief, Plant Quarantine and Control Administration.

AMENDMENT NO. 5 TO RULES AND REGULATIONS SUPPLEMENTAL TO NOTICE OF QUARANTINE NO. 52 (REVISED)

(Approved October 30, 1929; effective on and after October 31, 1929)

Under authority conferred by the plant quarantine act of August 20, 1912 (37 Stat. 315), as amended by the act of Congress approved March 4, 1917 (39 Stat. 1134, 1165), it is ordered that regulation 3 of the rules and regulations supplemental to Notice of Quarantine No. 52 (revised), on account of the pink bollworm, which were promulgated July 9, 1927, be, and the same is hereby, amended to read as follows:

REGULATION 3. REGULATED AREAS.

In accordance with the first proviso to Notice of Quarantine No. 52 (revised), the Secretary of Agriculture designates as regulated areas the following counties and parts of counties in Texas, New Mexico, and Arizona, including all cities, towns, townships, and other political subdivisions within their limits:

Texas area: The counties of Terrell, Presidio, Brewster, Pecos, Jeff Davis, Reeves, Ward, Loving, Culberson, Hudspeth, El Paso, Winkler, Andrews, Ector, Crane, Upton, Midland, Martin, Glasscock, and all those portions of Dawson, Borden, and Howard Counties lying south and west of the following described boundary lines: Beginning at the west boundary line of Dawson County at the southwest corner of section 114 of block M; thence in an easterly direction on the south line of sections 114, 89, 84, 71, 66, 53, 48, and 35 to the southeast corner of said section 35; thence northerly on the east line of section 35 to the northeast corner of said section; thence easterly on the south line of sections 28, 27, 26, and 25 of block M, and of section 27 of block C41 to the southeast corner of said section 27 of block C41; thence southerly 3 miles on the east line of sections 7, 6, and 1 of the D. L. Cunningham block 5 to the southwest corner of section 2 of the D. L. Cunningham block 5; thence easterly on the south line of sections 2 and 3 of the D. L. Cunningham block 5, and of sections 12 and 11 of the Georgetown Railroad Co. block 35 to the southeast corner of section 11 of said block; thence southerly along the east line of sections 24 and 21 of the D. L. Cunningham block 4 to the southwest corner of section 22 of said block 4; thence easterly along the south line of section 22 of said block 4

and section 1 of the Georgetown Railroad Co. block 34 to the southeast corner of said section 1; thence southerly on the east line of sections 6 and 7 of the J. Poitevent block 2 to the southeast corner of said section 7; thence easterly on the south line of section 8 of the J. Poitevent block 2 and of sections 9 and 10 of block 34, township 6 north, to the southeast corner of said section 10; thence northerly along the east line of said section 10 to the northeast corner of said section; thence easterly along the north line of section 11 of block 34, township 6 north of the northeast corner of said section; thence southerly along the east line of said section 11 to the southeast corner of said section; thence easterly on the south line of section 14 of block 34, township 6 north, to the southeast corner of said section; thence southeasterly along the meanderings of Dry Tobacco Canyon and the south fork of the Colorado River across the boundary line between Dawson and Borden Counties to a point in Borden County where the Big Spring-Gail public road crosses said river; thence in a southerly direction following the said Big Spring-Gail road to a point 1 mile south of Morris schoolhouse in Howard County, the same being at intersection of the Vincent road; thence south along fence to Morgan Creek; thence southeasterly along the meanderings of said Morgan Creek to the Howard-Mitchell County line; thence south along said county line to the southeast corner of Howard County.

New Mexico area: The counties of Chaves, Eddy, Otero, Dona Ana, Luna, Grant, and Hidalgo.

Arizona area: The counties of Cochise, Greenlee, Graham, Pinal, and Maricopa.

This amendment shall be effective on and after October 31, 1929, and shall cancel and supersede amendment No. 3 to the rules and regulations supplemental to Notice of Quarantine No. 52 as revised.

Done at the city of Washington this 30th day of October, 1929.

Witness my hand and the seal of the United States Department of Agriculture.

[SEAL.]

R. W. DUNLAP,
Acting Secretary of Agriculture

[Copies of the foregoing amendment were sent to all common carriers in Arizona.]

NOTICE TO GENERAL PUBLIC THROUGH NEWSPAPERS

OCTOBER 30, 1929.

Notice is hereby given that the Secretary of Agriculture, under authority conferred on him by the plant quarantine act of August 20, 1912 (37 Stat. 315), as amended, has promulgated amendment No. 5 to the rules and regulations supplemental to Notice of Quarantine No. 52, as revised, on account of the pink bollworm, effective October 31, 1929. This amendment modifies regulation 3 by adding the counties of Maricopa and Pinal, Ariz., to the areas designated as regulated.

Copies of said amendment may be obtained from the Plant Quarantine and Control Administration, Department of Agriculture, Washington, D. C.

R. W. DUNLAP,
Acting Secretary of Agriculture.

[Published in the Arizona Republican, Phoenix, Ariz., November 12, 1929.]

INSTRUCTIONS TO POSTMASTERS

POST OFFICE DEPARTMENT,
THIRD ASSISTANT POSTMASTER GENERAL,
Washington, November 11, 1929.

POSTMASTER.

MY DEAR SIR: There is inclosed for your information and guidance a copy of Revised Quarantine No. 52 of the United States Department of Agriculture, on account of the pink bollworm, effective on and after October 31, 1929, adding the counties of Maricopa and Pinal, Ariz., to the quarantined area, your post office being located in one of these counties.

It will be noted that the order absolutely prohibits the interstate movement from the regulated areas of the stalks, bolls, and other parts of the cotton plant and gin waste.

The conditions governing the movement of seed cotton, cottonseed, cottonseed hulls, cottonseed cake, cottonseed meal, cotton lint, etc., are clearly set forth in regulation 5 of the order and all postmasters concerned will be governed in accordance with the instructions contained therein.

Under the provisions of paragraph 1, section 467, P. L. and R., parcels containing any of the articles mentioned in the preceding paragraph may not be accepted for mailing from any of the areas quarantined in the order unless the articles have been inspected, certified, and marked as required.

Very truly yours,

S. A. TILTON,
Third Assistant Postmaster General.

REVISION OF REGULATIONS

INTRODUCTORY NOTE

The revision of the pink-bollworm-quarantine regulations which follows is issued for the purpose of incorporating the five amendments to the regulations which have been promulgated since the last revision was issued on July 9, 1927. An important change made at this time consists of authorizing regulation 5, section A, 2 (d), under certain safeguards, the issuance of permits for the interstate movement of "samples" and of compressed and baled lint or linters from the regulated areas of Arizona, New Mexico, and Texas, without fumigation, when such samples, lint, or linters have been produced in a county within which and within 5 miles of which no pink-bollworm infestation has been found for the two preceding crop seasons.

LEE A. STRONG,
Chief, Plant Quarantine and Control Administration.

NOTICE OF QUARANTINE No. 52 (REVISED)

(Effective on and after August 1, 1927)

I, Renick W. Dunlap, Acting Secretary of Agriculture, have determined that it is necessary to quarantine the States of Texas, New Mexico, and Arizona to prevent the spread of the pink bollworm (*Pectinophora gossypiella* Saunders), a dangerous insect new to and not heretofore widely prevalent or distributed within and throughout the United States.

Now, therefore, under the authority conferred by section 8 of the plant quarantine act of August 20, 1912 (37 Stat. 315), as amended by the act of Congress approved March 4, 1917 (39 Stat. 1134, 1165), and having duly given the public hearing as required thereby, I do quarantine the said States of Texas, New Mexico, and Arizona, effective on and after August 1, 1927. Hereafter, under the authority of said act of August 20, 1912, amended as aforesaid, (1) cotton, including all parts of the plant, seed cotton, cotton lint, linters, and all other forms of unmanufactured cotton lint, gin waste, cottonseed, cottonseed hulls, cottonseed cake, and meal; (2) bagging and other containers and wrappers of cotton and cotton products; (3) railway cars, boats, and other vehicles which have been used in conveying cotton and cotton products or which are fouled with such products; (4) hay and other farm products; and (5) farm household goods, farm equipment, and, if contaminated with cotton, any other articles, shall not be shipped, offered for shipment to a common carrier, received for transportation or transported by a common carrier or carried, transported, moved, or allowed to be moved from the States of Texas, New Mexico, or Arizona into or through any other State or Territory or District of the United States in manner or method or under conditions other than those prescribed in the rules and regulations hereinafter made and amendments thereto; *Provided*, That the restrictions of this quarantine and of the rules and regulations supplemental thereto may be limited to the areas in a quarantined State now or which may be hereafter designated by the Secretary of Agriculture as regulated areas when, in the judgment of the Secretary of

Agriculture, the enforcement of the aforesaid rules and regulations as to such regulated areas shall be adequate to prevent the spread of the pink bollworm: *Provided further*, That such limitation shall be conditioned upon the said State providing for and enforcing such control measures with respect to such regulated areas as, in the judgment of the Secretary of Agriculture, shall be deemed adequate to prevent the spread of the pink bollworm therefrom to other parts of the State.

Done at the city of Washington this 9th day of July, 1927.

Witness my hand and the seal of the United States Department of Agriculture.

[SEAL.]

RENICK W. DUNLAP,
Acting Secretary of Agriculture.

REVISED RULES AND REGULATIONS SUPPLEMENTAL TO NOTICE OF QUARANTINE
No. 52

(Approved December 26, 1929; effective January 1, 1930)

REGULATION 1. DEFINITIONS.

For the purpose of these regulations the following words, names, and terms shall be construed, respectively, to mean:

(a) Pink bollworm: The insect known as the pink bollworm of cotton (*Pectinophora gossypiella* Saunders).

(b) Regulated areas: Areas in a quarantined State which are now or which may hereafter be designated as such by the Secretary of Agriculture in accordance with the provisos to Notice of Quarantine No. 52 (revised).

(c) Cotton and other articles: All the articles enumerated as brought under restriction as to interstate movement in Notice of Quarantine No. 52 (revised).

(d) Cotton lint: Cotton lint, linters, and all other forms of unmanufactured cotton fiber, including samples of cotton lint and linters.

(e) Inspector: An inspector of the United States Department of Agriculture.

REGULATION 2. LIMITATION OF RESTRICTIONS TO REGULATED AREAS.

Conditioned upon the compliance on the part of the State concerned with the second proviso in Notice of Quarantine No. 52 (revised), the restrictions provided for in these regulations on the interstate movement of the articles enumerated in said notice of quarantine will be limited to such articles moving from the areas in such State now or hereafter designated by the Secretary of Agriculture as regulated areas: *Provided*, That the articles enumerated in said notice of quarantine may move interstate from an area not under regulation through a regulated area when such movement is on a through bill of lading.

REGULATION 3. REGULATED AREAS.

In accordance with the first proviso to Notice of Quarantine No. 52 (revised), the Secretary of Agriculture designates as regulated areas the following counties and parts of counties in Texas, New Mexico, and Arizona, including all cities, towns, townships, and other political subdivisions within their limits:

Texas area: The counties of Terrell, Presidio, Brewster, Pecos, Jeff Davis, Reeves, Ward, Loving, Culberson, Hudspeth, El Paso, Winkler, Andrews, Ector, Crane, Upton, Midland, Martin, Glasscock, and all those portions of Dawson, Borden, and Howard Counties lying south and west of the following-described boundary lines: Beginning at the west boundary line of Dawson County at the southwest corner of section 114 of block M; thence in an easterly direction on the south line of sections 114, 89, 84, 71, 66, 53, 48, and 35 to the southeast corner of said section 35; thence northerly on the east line of section 35 to the northeast corner of said section; thence easterly on the south line of sections 28, 27, 26, and 25 of block M, and of section 27 of block C41 to the southeast corner of said section 27 of block C41; thence southerly 3 miles on the east line of sections 7, 6, and 1 of the D. L. Cunningham block 5 to the southwest corner of section 2 of the D. L. Cunningham block 5; thence easterly on the south line of sections 2 and 3 of the D. L. Cunningham block 5, and of sections 12 and 11 of the Georgetown Railroad Co. block 35 to the southeast corner of section 11 of said block; thence southerly along the east line of sections 24 and 21 of the D. L. Cunningham block 4 to the southwest corner of section 22 of said block 4; thence easterly along the south line of section 22 of said block 4 and section 1 of the Georgetown Railroad Co. block 34 to the southeast corner of said section 1;

thence southerly on the east line of sections 6 and 7 of the J. Poitevent block 2 to the southeast corner of said section 7; thence easterly on the south line of section 8 of the J. Poitevent block 2 and of sections 9 and 10 of block 34, township 6 north, to the southeast corner of said section 10; thence northerly along the east line of said section 10 to the northeast corner of said section; thence easterly along the north line of section 11 of block 34, township 6 north, to the northeast corner of said section; thence southerly along the east line of said section 11 to the southeast corner of said section; thence easterly on the south line of section 14 of block 34, township 6 north, to the southeast corner of said section; thence southeasterly along the meanderings of Dry Tobacco Canyon and the south fork of the Colorado River across the boundary line between Dawson and Borden Counties to a point in Borden County where the Big Spring-Gail public road crosses said river; thence in a southerly direction following the said Big Spring-Gail road to a point 1 mile south of Morris schoolhouse in Howard County, the same being at intersection of the Vincent Road; thence south along fence to Morgan Creek; thence southeasterly along the meanderings of said Morgan Creek to the Howard-Mitchell County line; thence south along said county line to the southeast corner of Howard County.

New Mexico area: The counties of Chaves, Eddy, Otero, Dona Ana, Luna, Grant, and Hidalgo.

Arizona area: The counties of Cochise, Greenlee, Graham, Pinal, and Maricopa.

REGULATION 4. EXTENSION OR REDUCTION OF REGULATED AREAS.

The regulated areas designated in regulation 3 may be extended or reduced as may be found advisable by the Secretary of Agriculture. Due notice of any extension or reduction and the areas affected thereby will be given in writing to the transportation companies doing business in or through the State in which such areas are located and by publication in newspapers selected by the Secretary of Agriculture within the States in which the areas affected are located.

REGULATION 5. CONTROL OF MOVEMENT OF COTTON AND OTHER ARTICLES.

Section A. Cotton lint

(1) Permits required: Cotton lint shall not be moved or allowed to be moved interstate from a regulated area to or through any point outside thereof unless a permit shall have been issued therefor by the United States Department of Agriculture.

(2) Conditions governing the issuance of permits: Permits authorizing the interstate movement of bales of cotton lint and of samples from a regulated area may be issued upon compliance with any one of paragraphs lettered (a) to (g) inclusive:

(a) That the material to be moved consists of baled lint or linters which have been compressed to a density of 22 pounds to the cubic foot and fumigated under vacuum under the direction of and in a manner satisfactory to the inspector; or

(b) That the material to be moved consists of samples fumigated under the direction of and in a manner satisfactory to the inspector; or

(c) That the material to be moved consists of second-cut or mill-run linters (as distinguished from "first-cut" linters) which have been ginned from sterilized seed and have been passed through special roller equipment in such a manner that, in the judgment of the inspector, all cottonseed and larvæ therein would be crushed. After passing through the roller equipment such linters are to be so protected as, in the judgment of the inspector, to prevent any possibility of contamination and if, owing to conditions of infestation in the vicinity, such protection is, in the judgment of the inspector, impracticable, permits may be withheld until after compression and fumigation as provided under paragraph (a) hereof.

(d) That the material consists either of samples or of baled and compressed (see paragraph (a)) lint or linters, produced and ginned in a county within which and within 5 miles of which (i) no pink bollworm infestation has been found during the same crop season nor during the two preceding crop seasons, (ii) no infested seed cotton is known to have been ginned during such period, and (iii) all cottonseed produced therein has been sterilized in a cottonseed-heating machine approved by and operated in a manner satisfactory to the inspector. Fumigation shall, however, also be required for the interstate movement from such counties or regulated parts thereof to points outside the regulated areas of motes, grabbots, flues, picker waste, and all forms of unmanufactured cotton fiber other than samples and commercial baled lint and linters.

The crop season within the meaning of this paragraph shall be interpreted as extending from June 1 of one year to May 31 of the following year.

(e) Cotton lint, delint, samples, and grabbots produced by any oil mill located outside the regulated areas but authorized under paragraph (5) below to crush cottonseed originating therein shall be returned to the regulated areas for such compression and fumigation as may be required under previous paragraphs of this section and shall not be moved therefrom except in compliance with all applicable requirements of this section.

(f) Uncompressed and undisinfected cotton lint may be moved interstate under permit² between regulated areas under such safeguards as shall be required by the inspector when such movement is not through any point outside any regulated area.

(g) Baled cotton lint grown outside of but brought within a regulated area may be moved interstate under permit out of such regulated area on the furnishing of evidence, satisfactory to the inspector, that such lint has been handled in a manner to safeguard it from possible contamination with the pink bollworm.

Section B. Miscellaneous cotton products and other restricted articles

(3) Stalks, bolls, and other parts of the cotton plant and gin waste shall not be moved or allowed to be moved interstate from regulated areas.

(4) Seed cotton shall not be moved or allowed to be moved interstate from regulated areas, except that for the purpose of ginning such seed cotton may be moved³ interstate without permit between two contiguous regulated areas. Cottonseed and cotton lint ginned from seed cotton so moved may be returned without permit to point of origin.

(5) Cottonseed shall not be moved or allowed to be moved interstate from regulated areas into or through any point outside such areas: *Provided*, That upon determination by the Plant Quarantine and Control Administration that reasonable necessity exists for such action, oil mills located outside of but in the vicinity of the regulated areas may be authorized to crush cottonseed originating in said areas, upon compliance with such conditions as shall, in the judgment of said administration, eliminate any risk of spread of the pink bollworm. Such authorized mills shall be operated in manner and by method satisfactory to and under the supervision of the administration. In case of such authorization, permits may be issued for the interstate movement from the regulated areas or portions thereof to such authorized mills for crushing of cottonseed which has been sterilized in a cottonseed-heating machine approved by and operated in a manner satisfactory to the inspector. Permits may also be issued for the interstate movement of such sterilized cottonseed between regulated areas when such movement is not through any point outside any regulated area.

(6) Cottonseed hulls shall not be moved or allowed to be moved interstate from regulated areas into or through any point outside such areas. Cottonseed hulls may be moved interstate under permit³ between regulated areas when such movement is not through any point outside any regulated area on the furnishing of evidence, satisfactory to the inspector, that the cottonseed from which the hulls were obtained was sterilized as required in paragraph (5) of this regulation.

(7) Cottonseed cake and cottonseed meal shall not be moved or allowed to be moved interstate from a regulated area except under permit. Permits will be granted on the furnishing of evidence satisfactory to the inspector, (i) that the cottonseed (from a regulated area) used in the production of the cake and meal offered for movement was sterilized as required in paragraph (5) of this regulation; (ii) that in the process of and subsequent to the manufacture of such cake and meal safeguards have been taken against their possible contamination with raw cottonseed; and (iii) that the containers or wrappers of such cake and meal have met the requirements hereinafter set forth in paragraph (8) of this regulation.

(8) Bagging and other wrappers and containers which have been used in connection with or which are contaminated with cotton, seed cotton, cottonseed,

² Certain of the Arizona areas defined in regulation 3 are infested not only with the pink bollworm but also with the *Thurberia weevil* and are included within the area designated as regulated area under the *Thurberia weevil* quarantine. (See Notice of Quarantine No. 61 (revised).) Under that quarantine seed cotton, cottonseed, and cottonseed hulls are prohibited interstate movement from the *Thurberia weevil* regulated area and no permits will be issued for such movement. Permits for the interstate movement of uncompressed and undisinfected cotton lint from that area will not be issued.

³ See footnote 2.

cottonseed hulls, cottonseed cake and meal, or cotton lint shall not be moved or allowed to be moved interstate from a regulated area except under permit. Permits will not be granted until such bagging or other wrappers or containers have been cleaned or disinfected to the satisfaction of the inspector.

(9) Railway cars, boats, and other vehicles which have been used in conveying cotton and cotton products, or which are fouled with such products, farm household goods, farm equipment, and, if contaminated with cotton, other articles shall not be moved or allowed to be moved interstate from a regulated area until the same have been thoroughly cleaned or disinfected at the point of origin or shipment to the satisfaction of the inspector.

(10) Hay and other farm products the interstate movement of which has not been specifically provided for elsewhere in this regulation may be moved interstate without restriction until further notice.

REGULATION 6. MARKING AND LABELING.

Cotton and other articles the interstate movement of which is permitted under regulation 5 shall be subject to such marking and labeling as may be required by the inspector. Copies of the permit required by regulation 5 must be attached to the waybills, conductors' manifests, memoranda, or bills of lading covering such shipments. In the case of cotton lint, and bagging and other wrappers and containers, the bales or other parcels of such materials shall be plainly marked with the name and address of the shipper and the name and address of the consignee, or such other marking as shall be sufficient in the judgment of the inspector to identify the material. Containers of cottonseed hulls, cake, and meal will not be required to be marked, but copies of the permit must be attached to the waybills, conductors' manifests, memoranda, or bills of lading covering such shipments.

REGULATION 7. CONDITIONS GOVERNING INSPECTION AND ISSUANCE OF PERMITS.

Persons intending to move or allow to be moved cotton or other articles for which permits are required by these regulations shall make application therefor on forms provided for the purpose as far as possible in advance of the probable date of shipment. Applications should show the origin, nature, and quantity of the articles which it is proposed to move, together with their exact location, and, if practicable, the contemplated date of shipment. All charges for storage, cartage, and labor incident to inspection, other than the services of inspectors, shall be paid by the shipper. Applications for inspection and issuance of permits must contain the names and addresses of the consignors and consignees and should be made to the office of the Plant Quarantine and Control Administration, San Antonio, Tex., or to such other offices as may be later established, and of which due notice shall have been given.

REGULATION 8. COMPLIANCE WITH THESE REGULATIONS A CONDITION OF ACCEPTANCE FOR INTERSTATE MOVEMENT OF THE RESTRICTED ARTICLES BY COMMON CARRIERS.

Transportation companies and other common carriers shall not accept or move interstate any of the articles covered by this quarantine other than in compliance with these regulations.

REGULATION 9. SHIPMENTS BY THE UNITED STATES DEPARTMENT OF AGRICULTURE.

Articles subject to restriction in these regulations may be moved interstate by the United States Department of Agriculture for experimental or scientific purposes, on such conditions and under such safeguards as may be prescribed by the Plant Quarantine and Control Administration. The container of articles so moved shall bear, securely attached to the outside thereof, an identifying tag from the Plant Quarantine and Control Administration showing compliance with such conditions.

These rules and regulations shall be effective on and after January 1, 1930, and shall supersede on that date the rules and regulations issued under Notice of Quarantine No. 52 (revised), effective on and after August 1, 1927, as amended to date.

Done at the city of Washington this 26th day of December, 1929.

Witness my hand and the seal of the United States Department of Agriculture.

[SEAL.]

R. W. DUNLAP,
Acting Secretary of Agriculture.

[Copies of above revision were sent to all common carriers in the States of Texas, New Mexico, and Arizona.]

NOTICE TO GENERAL PUBLIC THROUGH NEWSPAPERS

Notice is hereby given that the Secretary of Agriculture, under authority conferred on him by the plant quarantine act of August 20, 1912 (37 Stat. 315), as amended, has promulgated a revision of the rules and regulations supplemental to Notice of Quarantine No. 52, on account of the pink bollworm, effective January 1, 1930. An important change made at this time consists of authorizing, under certain safeguards, the issuance of permits for the interstate movement of cotton "samples" and of compressed and baled lint or linters from the regulated areas of Arizona, New Mexico, and Texas, without fumigation, when such samples, lint, or linters have been produced in a county within which and within 5 miles of which no pink-bollworm infestation has been found for the two preceding crop seasons.

Copies of the said quarantine and of the revised rules and regulations may be obtained from the Plant Quarantine and Control Administration, United States Department of Agriculture, Washington, D. C.

R. W. DUNLAP,

Acting Secretary of Agriculture.

[Published in the following newspapers: The Arizona Republican, Phoenix, Ariz., January 15, 1930; El Paso Herald, El Paso, Tex., May 14, 1930; the Record, Roswell, N. Mex., May 14, 1930.]

ANNOUNCEMENTS RELATING TO SATIN-MOTH QUARANTINE (NO. 53)

MODIFICATION OF SATIN-MOTH QUARANTINE

INTRODUCTORY NOTE

The amendment which follows adds to the area designated as regulated 38 towns in Maine, 3 towns in New Hampshire, and 5 towns in Massachusetts, making a total of 46 towns, comprising approximately 1,871 square miles. The effect of the amendment is to prohibit the interstate movement of poplar and willow trees and parts thereof capable of propagation from this additional territory to outside points.

C. L. MARLATT,

Chief, Plant Quarantine and Control Administration.

AMENDMENT NO. 1 TO REVISED RULES AND REGULATIONS SUPPLEMENTAL TO NOTICE OF QUARANTINE NO. 53 (REVISED)

(Approved October 31, 1929; effective on and after November 1, 1929)

Under authority conferred by the plant quarantine act of August 20, 1912 (37 Stat. 315), as amended by the act of Congress approved March 4, 1917 (39 Stat. 1134, 1165), it is ordered that regulation 3 of the revised rules and regulations supplemental to Notice of Quarantine No. 53 (revised), on account of the satin moth, which were promulgated November 21, 1928, be, and the same is hereby, amended to read as follows:

REGULATION 3. REGULATED AREAS.

In accordance with the proviso to Notice of Quarantine No. 53, as revised, the Secretary of Agriculture designates as regulated area for the purpose of these regulations the States, counties, townships, towns, and cities listed below, including any cities, towns, boroughs, or other political subdivisions included within their limits:

Connecticut: Counties of New London, Tolland, and Windham; towns of East Hartford, East Windsor, Enfield, Glastonbury, Hartford, Manchester, Marlborough, South Windsor, and Suffield, in *Hartford County*; and towns of East Haddam, East Hampton, and Portland, in *Middlesex County*.

Maine: Counties of Androscoggin, Cumberland, Knox, Lincoln, Sagadahoc, Waldo, and York; town of Jay, in *Franklin County*; towns of Bar Harbor, Trenton, and Otis, and the city of Ellsworth, in *Hancock County*, and all territory west and south of said towns and city in said county; the entire *county of Kennebec*, except the towns of Rome and Vienna; towns of Albany, Brownfield, Buckfield, Canton, Denmark, Fryeburg, Greenwood, Hartford, Hebron, Hiram, Lovell, Norway, Oxford, Paris, Porter, Stoneham, Stow, Sumner, Sweden, Waterford, and Woodstock, in *Oxford County*; towns of Alton, Argyle, Bradford, Bradley, Burlington, city of Bangor, city of Brewer, city of Oldtown, Carmel, Clifton, Corinth, Dixmont, Eddington, Edinburg, Enfield, Etna, Glenburn, Greenbush, Hampden, Hermon, Holden, Howland, Hudson, Kenduskeag, Lagrange,

Levant, Lincoln, Lowell, Mattamiscoutis, Maxfield, Milford, Newburgh, Newport, Orono, Orrington, Passadumkeag, Plymouth, Stetson, Summit Plantation, and Veazie, in *Penobscot County*; towns of Medford, Milo, and Orneville, in *Piscataquis County*; and towns of Canaan, Detroit, Fairfield, Pittsfield, and Skowhegan, in *Somerset County*.

Massachusetts: Counties of Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Plymouth, Suffolk, and Worcester; towns of Bernardston, Buckland, Charlemont, Colrain, Conway, Deerfield, Erving, Gill, Greenfield, Heath, Leverett, Leyden, Montague, New Salem, Northfield, Orange, Shelburne, Shutesbury, Sunderland, Warwick, Wendell, and Whately, in *Franklin County*; towns of Agawam, Brimfield, Chicopee, East Longmeadow, Hampden, Holland, Holyoke, Longmeadow, Ludlow, Monson, Montgomery, Palmer, Russell, Southwick, Springfield, Wales, Westfield, West Springfield, and Wilbraham, in *Hampden County*; and towns of Amherst, Belchertown, Easthampton, Enfield, Granby, Greenwich, Hadley, Hatfield, Northampton, Pelham, Prescott, South Hadley, Southampton, Ware, and Williamsburg, in *Hampshire County*.

New Hampshire: Counties of Belknap, Cheshire, Hillsboro, Merrimack, Rockingham, and Stratford; towns of Albany, Bartlett, Brookfield, Chatham, Conway, Eaton, Effingham, Freedom, Madison, Moultonboro, Ossipee, Sandwich, Tamworth, Tuftonboro, Wakefield, and Wolfeboro, in *Carroll County*; towns of Alexandria, Ashland, Bridgewater, Bristol, Campton, Hebron, Holderness, Plymouth, and Rumney, in *Grafton County*; and towns of Acworth, Charlestown, Goshen, Langdon, Lempster, Springfield, Sunapee, Unity, and Washington, in *Sullivan County*.

Rhode Island: The entire State.

Vermont: Towns of Brattleboro, Dummerston, Guilford, Putney, Rockingham, Vernon, and Westminster, in *Windham County*; and town of Springfield, in *Windsor County*.

Washington: Counties of Clallam, Clarke, Cowlitz, Grays Harbor, Island, Jefferson, King, Kitsap, Lewis, Mason, Pacific, Pierce, San Juan, Skagit, Skamania, Snohomish, Thurston, Wahkiakum, and Whatcom.

This amendment shall be effective on and after November 1, 1929.

Done at the city of Washington, this 31st day of October, 1929.

Witness my hand and the seal of the United States Department of Agriculture.
[SEAL.]

ARTHUR M. HYDE,
Secretary of Agriculture.

[Copies of foregoing amendment were sent to all common carriers in Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut.]

NOTICE TO GENERAL PUBLIC THROUGH NEWSPAPERS

Notice is hereby given that the Secretary of Agriculture, under authority conferred on him by the plant quarantine act of August 20, 1912 (37 Stat. 315), as amended, has promulgated an amendment to the revised rules and regulations supplemental to Notice of Quarantine No. 53 (revised), on account of the satin moth, effective November 1, 1929. This amendment adds 38 towns in Maine, 3 towns in New Hampshire, and 5 towns in Massachusetts to the area designated as regulated in regulation 3 thereof. Copies of said amendment may be obtained from the Plant Quarantine and Control Administration, United States Department of Agriculture, Washington, D. C.

ARTHUR M. HYDE,
Secretary of Agriculture.

[Published in the following newspapers: The Manchester Union Leader, Manchester, N. H., November 9, 1929; the Boston Herald, Boston, Mass., November 11, 1929; Portland Press Herald, Portland, Me., November 9, 1929.]

INSTRUCTIONS TO POSTMASTERS

POST OFFICE DEPARTMENT,
THIRD ASSISTANT POSTMASTER GENERAL.
Washington, November 26, 1929.

POSTMASTER.

MY DEAR SIR: There is inclosed for your information and guidance a copy of amendment No. 1 to Revised Rules and Regulations Supplemental to Notice of Quarantine No. 53 (revised), on account of the satin moth, the purpose of which is to extend the quarantined areas in the States of Maine, Massachusetts, and New Hampshire.

Quarantine Order No. 53 prohibits the movement from any point in the regulated areas into or through any point outside thereof of poplar and willow trees and parts thereof capable of propagation.

Very truly yours,

F. A. TILTON,
Third Assistant Postmaster General.

TERMINAL INSPECTION OF PLANTS AND PLANT PRODUCTS

PLANTS AND PLANT PRODUCTS ADDRESSED TO PLACES IN MISSISSIPPI

THIRD ASSISTANT POSTMASTER GENERAL,
Washington, December 18, 1929.

Postmasters in the State of Mississippi are informed that provision has been made for the terminal inspection of plants and plant products at Aberdeen, Columbus, Greenwood, and McComb, Miss., so that the complete list of such terminal inspection points in Mississippi is as follows:

A. and M. College.	Gulfport.	Ocean Spring.
Aberdeen.	Holly Springs.	Pascagoula.
Biloxi.	Houston.	Poplarville.
Brookhaven.	Jackson.	Senatobia.
Cleveland.	Laurel.	Starkville.
Columbus.	Incedale.	Tupelo.
Corinth.	McComb.	Vicksburg.
Durant.	Meridian.	West Jackson.
Greenwood.	Moss Point.	Wiggins.
Grenada.	Natchez.	Yazo City.

Upon receiving the required postage as prescribed by paragraph 3, section 468, Postal Laws and Regulations, parcels containing plants and plant products subject to terminal inspection should be sent to the inspection point nearest the office of address.

F. A. TILTON,
Third Assistant Postmaster General.

CONVICTIONS FOR VIOLATIONS OF THE PLANT QUARANTINE ACT

The following convictions for violations of the plant quarantine act were reported to the administration during the period October 1 to December 31, 1929:

WHITE-PINE BLISTER-RUST QUARANTINE

In the case of the United States *v.* The Gurney Seed & Nursery Co. (Inc.), Yankton, S. Dak., in the interstate shipment of 4 *Ribes nigrum* and 3 red-currant and 4 gooseberry plants in violation of the regulations, the defendant pleaded guilty and was fined \$25. (Plant Quarantine Case No. 339.)

In the case of the United States *v.* The Gurney Seed & Nursery Co. (Inc.), Yankton, S. Dak., in the interstate shipment of six cultivated red-currant plants in violation of the regulations, the defendant pleaded guilty and was fined \$35 and costs. (Plant Quarantine Case No. 382.)

In the case of the United States *v.* The Earle Ferris Nursery Co., Hampton, Iowa, in the interstate shipment of eight white pines in violation of the regulations, the defendant pleaded guilty and was fined \$35 and costs. (Plant Quarantine Case No. 372.)

In the case of the United States *v.* The Mount Arbor Nurseries, Shenandoah, Iowa, in the interstate shipment of 3 gooseberry and 15 currant plants in violation of the regulations, the defendant pleaded guilty and was fined \$10 and costs. (Plant Quarantine Case No. 366.)

In the case of the United States *v.* The Shendanoo Nurseries, Shenandoah, Iowa, in the interstate shipment of 100 gooseberry plants in violation of the regulations, the defendant pleaded guilty and was fined \$10 and costs. (Plant Quarantine Case No. 365.)

In the case of the United States *v.* The Berry Seed Co., Clarinda, Iowa, in the interstate shipment of 26 currant and 13 gooseberry plants in violation of the regulations, the defendant pleaded guilty and was fined \$10 and costs. (Plant Quarantine Case No. 367.)

EUROPEAN CORN-BORER QUARANTINE

In the case of the United States *v.* The New York Central Railroad Co., in the interstate transportation of 25 bags (2,500 pounds) of shelled popcorn to a point outside the quarantined area, without inspection and certification, the defendant pleaded guilty and was fined \$50. (Plant Quarantine Case No. 375.)

JAPANESE-BEETLE QUARANTINE

In the case of the United States *v.* John Scoblick, Archbald, Pa., in the interstate transportation of approximately 48 crates of blackberries and 129 baskets of tomatoes from Carbondale, Pa., to a point outside the quarantined area, without inspection and certification, the defendant pleaded guilty and was fined \$100. (Plant Quarantine Case No. 380.)

MEDITERRANEAN FRUIT FLY AND MELON FLY QUARANTINE

In the case of the United States *v.* Young Yuen Yin, Honolulu, Hawaii, in the shipment by express via the S. S. *Manukai* of 28 mangoes and 4 avocados, without inspection and certification, to the National Dollar Stores, San Francisco, Calif., the defendant pleaded guilty and was fined \$25, with a suspended sentence and probation for one year. (Plant Quarantine Case No. 376.)

In the case of the United States *v.* Margaret M. Chung, Honolulu, Hawaii, in the mail shipment via the S. S. *Malolo* of two avocados, without inspection and certification, to Mrs. Daisy Smith, Grand Rapids, Mich., the defendant pleaded guilty, sentence was suspended for one year, and the defendant placed on probation for a like period. (Plant Quarantine Case No. 378.)

In the case of the United States *v.* Robert Matoba, a pantryman on the S. S. *Calawaii*, of the Los Angeles Steamship Co., in bringing to the mainland from Honolulu, Hawaii, 24 mangoes and 2 papayas, without inspection and certification, the defendant was sentenced to 90 days in jail.

SWEETPOTATO AND YAM QUARANTINE (DOMESTIC)

In the case of the United States *v.* Tong Yee Wai, an employee of the Sun Chung Leong Co., of Honolulu, Hawaii, in the shipment to the mainland, on the S. S. *Manoa*, leaving Honolulu on November 12, 1929, of a quantity of yams concealed in two crates of taro, the defendant pleaded guilty, sentence was suspended, and he was placed on probation for one year. The defendant was severely reprimanded by the court and given to understand that another occurrence of a similar offense would result in his imprisonment.

QUARANTINES AFFECTING MEXICAN PRODUCTS

In the case of the United States versus the persons listed below for attempting to smuggle in contraband plant material the penalties indicated were imposed by the United States customs officials.

Name	Address	Contraband	Penalty
Mrs. Carmen Martinez.....	Naco, Ariz.....	8 sweet limes.....	\$5
Tomas Garcia.....	Nogales, Ariz.....	10 peaches, 11 pomegranates, 8 sweet limes, 9 guavas.....	5
Frank A. Krupp.....	.....do.....	35 quinces.....	5
F. Sandoval.....	.....do.....	8 quinces, 6 pomegranates.....	5
Severino Valera.....	Brownsville, Tex.....	12 avocados, with seed.....	5
S. O. Betters and Jack Ogbie.....	.....do.....	.....do.....	5
W. G. Davis.....	.....do.....	6 avocados, with seed.....	5
Roman Guerra.....	.....do.....	4 avocados, with seed.....	5
Sr. Santiago Robles.....	.....do.....	20 pounds sweetpotatoes.....	15
H. Gonzales.....	Eagle Pass, Tex.....	12 guavas, 7 avocados.....	5
Anastacio Martinez.....	.....do.....	3 oranges.....	5
Julian Naranjo.....	El Paso, Tex.....	3 avocados.....	5
Concepcion Cerda de Alcazar.....	.....do.....	2 pears.....	5
Tom Quin and Martha Quin.....	.....do.....	2 apples, 1 orange.....	5
Ysabel Cordona.....	.....do.....	3 plants.....	5
Antonia O. Rodriguez.....	.....do.....	9 pieces sugarcane.....	5
A. Ahern.....	Hidalgo, Tex.....	2 avocados.....	5
Julian Trenario.....	.....do.....	4 avocados.....	5
Juan Pena.....	.....do.....	14 avocados.....	5
Henry Guerra.....	Laredo, Tex.....	7 quinces.....	5
G. Trejo.....	.....do.....	7 avocados.....	5
O. S. Berera.....	.....do.....	2 avocados, 2 mangoes.....	5
Jose M. Sanchez.....	.....do.....	39 avocados, 11 plants.....	10
E. A. Diaz.....	.....do.....	1 plant, 26 figs, 8 peaches, 5 pomegranates, 35 pears.....	5
B. Saldivar.....	.....do.....	5 plants, 1 avocado, 1 cherimoya.....	5

LIST OF CURRENT QUARANTINES AND OTHER RESTRICTIVE ORDERS AND MISCELLANEOUS REGULATIONS

[The domestic and foreign quarantines and other restrictive orders summarized herein are issued under the authority of the plant quarantine act of August 20, 1912, as amended. The Mexican border regulations and the export certification regulations are issued under specific acts of Congress.]

QUARANTINE ORDERS

The numbers assigned to these quarantines indicate merely the chronological order of issuance of both domestic and foreign quarantines in one numerical series. The quarantine numbers missing in this list are quarantines which have either been superseded or revoked. For convenience of reference these quarantines are here classified as domestic and foreign.

DOMESTIC QUARANTINES

Date palms.—Quarantine No. 6: Prohibits, except as provided in the rules and regulations supplemental thereto, the interstate movement of date palms and date-palm offshoots from Riverside County, Calif., east of the San Bernardino meridian; Imperial County, Calif.; Yuma, Maricopa, and Pinal Counties, Ariz.; and Webb County, Tex., on account of the Parlatoria scale (*Parlatoria blanchardi*) and the Phoenicococcus scale (*Phoenicococcus mariatti*).

Hawaiian fruits and vegetables.—Quarantine No. 13, revised: Prohibits, except as provided in the rules and regulations supplemental thereto, the movement from the Territory of Hawaii into or through any other Territory, State, or District of the United States of all fruits and vegetables in the natural or raw state, on account of the Mediterranean fruit fly (*Ceratitis capitata*) and the melon fly (*Dacus cucurbitae*).

Sugarcane.—Quarantine No. 16: Prohibits the movement from the Territories of Hawaii and Porto Rico into or through any other Territory, State, or District of the United States of living canes of sugarcane, or cuttings or parts thereof, on account of certain injurious insects and fungous diseases.

Sweetpotato and yam.—Quarantine No. 30: Prohibits the movement from the Territories of Hawaii and Porto Rico into or through any other Territory, State, or District of the United States of all varieties of sweetpotatoes and yams (*Ipomoea batatas* and *Dioscorea* spp.), regardless of the use for which the same are intended, on account of the sweetpotato weevil (*Cylas formicarius*) and the sweetpotato scarabee (*Euscepes batatae*).

Banana plants.—Quarantine No. 32: Prohibits the movement from the Territories of Hawaii and Porto Rico into or through any other Territory, State, or District of the United States of any species or variety of banana plants (*Musa* spp.), regardless of the use for which the same are intended, on account of two injurious weevils (*Rhabdoenemis obscurus* and *Metamasius hemipterus*).

Black-stem rust.—Quarantine No. 38, as amended: Prohibits the movement interstate to any point outside of the quarantined area of the common barberry (*Berberis vulgaris*) and its horticultural varieties as well as certain other species of *Berberis* and *Mahonia*, on account of the black-stem rust of wheat, oats, barley, rye, and many wild and cultivated grasses.

European corn borer.—Quarantine No. 43, revised: Prohibits, except as provided in the rules and regulations supplemental thereto, the movement interstate to any point outside of the quarantined area of (1) corn and broomcorn (including all parts of the stalk), all sorghums, Sudan grass, celery, green beans in the pod, beets with tops, rhubarb, oat and rye straw as such or when used as packing, cut flowers or entire plants of chrysanthemums, aster, cosmos, zinnia, hollyhock, and cut flowers or entire plants of gladiolus and dahlia, except the bulbs thereof without stems, from the State of Rhode Island and from infested areas in Maine, New Hampshire, Massachusetts (eastern section), Connecticut (eastern section), and from Fishers Island in Suffolk County, N. Y.; and (2) corn and broomcorn (including all parts of the stalk), all sorghums, and Sudan grass from the States of Vermont, New York (except Fishers Island), and Michigan, and from infested areas in Massachusetts (western section), Connecticut (northern section), New Jersey, Pennsylvania, Ohio, Indiana, and West Virginia.

Gipsy moth and brown-tail moth.—Quarantine No. 45: Prohibits, except as provided in the rules and regulations supplemental thereto, the movement interstate to any point outside of the infested area, or from points in the generally infested area to points in the lightly infested area, of stone or quarry products, and of the plants and the plant products listed therein. The quarantine covers all the New England States.

Hawaiian and Porto Rican cotton, cottonseed, and cottonseed products.—Quarantine No. 47: Prohibits, except as provided in the rules and regulations supplemental thereto, the movement of cotton, cottonseed, and cottonseed products from the Territories of Hawaii and Porto Rico into or through any other Territory, State, or District of the United States on account of the pink bollworm (*Pectinophora gossypiella*) and the cotton blister mite (*Eriophyes gossypii*), respectively.

Japanese beetle.—Quarantine No. 48, revised: (1) Prohibits, except as provided in the rules and regulations supplemental thereto, the interstate movement of farm, garden, and orchard products of all kinds and grain and forage crops of all kinds from the generally infested area to or through any point outside thereof, and (2) prohibits, except as provided in the rules and regulations supplemental thereto, the interstate movement of nursery, ornamental, and greenhouse stock and all other plants and sand, soil, earth, peat, compost, and manure from the generally infested area to the lightly infested areas, or from either the generally infested area or the lightly infested areas to or through any point outside thereof. The generally infested area includes the State of New Jersey and parts of the States of Connecticut, Delaware, Maryland, New York, and Pennsylvania; the lightly infested areas include the District of Columbia and parts of the States of Connecticut, Delaware, Maryland, Massachusetts, New York, and Pennsylvania.

United States quarantined to protect Hawaii.—Quarantine No. 51: Prohibits, except as provided in the rules and regulations supplemental thereto, the movement from the United States to the Territory of Hawaii, as ships' stores or as baggage or effects of passengers or crews, of sugarcane, corn, cotton, alfalfa, and the fruits of the avocado and papaya in the natural or raw state, on account of injurious insects, especially the sugarcane borer (*Diatraea saccharalis* Fab.), the alfalfa weevil (*Hypera postica* Gyll.), the cotton-boll weevil (*Anthonomus grandis* Boh.), the papaya fruit fly (*Toxotrypana curvicauda* Guerst.), and certain insect enemies of the fruit of the avocado.

Pink bollworm.—Quarantine No. 52, revised: Prohibits, except as provided in the rules and regulations supplemental thereto, the interstate movement from the regulated areas of Texas, Arizona, and New Mexico of (1) cotton, including all parts of the plant, seed cotton, cotton lint, linters, and all other forms of unmanufactured cotton lint, gin waste, cottonseed, cottonseed hulls, cottonseed cake and meal; (2) bagging and other containers and wrappers of cotton and cotton products; (3) railway cars, boats, and other vehicles which have been used in conveying cotton and cotton products or which are fouled with such products; (4) hay and other farm products; and (5) farm household goods, farm equipment, and if contaminated with cotton, any other articles.

Satin moth.—Quarantine No. 53, revised: Prohibits the interstate movement to points outside of the regulated areas in Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, and Washington of all species or varieties of poplar and willow trees or parts thereof capable of propagation.

Porto Rican fruits and vegetables.—Quarantine No. 58: Prohibits, except as provided in the rules and regulations supplemental thereto, the movement from the Territory of Porto Rico into or through any other Territory, State, or District of the United States of all fruits and vegetables in the raw or unprocessed state, on account of injurious insects, including the West Indian fruit fly (*Anastrepha fraterculus* Wied.) and the bean-pod borer (*Maruca testulalis* Geyer).

Sand, soil, or earth, with plants from Hawaii and Porto Rico.—Quarantine No. 60: Prohibits the movement from the Territories of Hawaii and Porto Rico into or through any other Territory, State, or District of the United States of sand (other than clean ocean sand), soil, or earth, around the roots of plants, to prevent the spread of white grubs, the Japanese rose beetle, and termites or white ants.

Thurberia weevil.—Quarantine No. 61, revised: Prohibits the interstate movement of *Thurberia*, including all parts of the plant, from any point in Arizona, and prohibits, except as provided in the rules and regulations supplemental

thereto, the interstate movement from the regulated area of Arizona of (1) cotton, including all parts of the plant, seed cotton, cotton lint, linters, and all other forms of unmanufactured cotton lint, gin waste, cottonseed, cottonseed hulls, and cottonseed cake and meal; (2) bagging and other containers and wrappers of cotton and cotton products; (3) railway cars, boats, and other vehicles which have been used in conveying cotton and cotton products, or which are fouled with such products; (4) hay and other farm products; and (5) farm household goods, farm equipment, and, if contaminated with cotton, any other articles.

Narcissus bulbs.—Quarantine No. 62: Prohibits, except as provided in the rules and regulations supplemental thereto, the interstate movement from every State in the continental United States and the District of Columbia of narcissus bulbs, on account of certain injurious bulb pests, including the greater bulb fly (*Merodon equestris* Fab.), the lesser bulb fly (*Eumerus strigatus* Fallen), and the bulb eelworm (*Tylenchus dipsaci* Kuehn).

White-pine blister rust.—Quarantine No. 63: Prohibits, except as provided in the rules and regulations supplemental thereto, the interstate movement from every State in the continental United States and the District of Columbia of fiveleaf pines (*Pinus*) or currant and gooseberry plants (*Ribes* and *Grossularia*, including cultivated or wild or ornamental sorts).

Mexican fruit worm.—Quarantine No. 64: Prohibits, except as provided in the rules and regulations supplemental thereto, the interstate movement from the regulated area of Texas of fruits of all varieties.

Woodgate rust.—Quarantine No. 65: Prohibits the interstate movement from the regulated area in the State of New York of trees, branches, limbs, or twigs of Scotch pine (*Pinus sylvestris*), Canary Island pine (*P. canariensis*), Slash pine (*P. caribaea*), Japanese red pine (*P. densiflora*), Corsican pine (*P. nigra* *poiretiana*), Stone pine (*P. pinea*), Western yellow pine (*P. ponderosa*), Monterey pine (*P. radiata*), Loblolly pine (*P. taeda*), or Jersey pine (*P. virginiana*), or of any variety thereof, or of any species or variety of hard pine hereafter found to be susceptible to the Woodgate rust.

Asiatic beetle and Asiatic garden beetle.—Quarantine No. 66: Prohibits, except as provided in the rules and regulations supplemental thereto, the interstate movement from the State of New Jersey and from the regulated areas of Connecticut, New York, Pennsylvania, and Virginia, and the District of Columbia of (1) nursery, ornamental, and greenhouse stock, and all other plants, and (2) sand, soil, earth, peat, compost, and manure.

Phoney peach disease.—Quarantine No. 67: Prohibits, except as provided in the rules and regulations supplemental thereto, the interstate movement from the regulated areas of Georgia and Alabama of peach trees, peach roots, nectarine trees, nectarine roots, and all kinds and varieties of trees or shrubs grafted or budded on peach or nectarine roots.

Mediterranean fruit fly.—Quarantine No. 68, revised: Prohibits, except as provided in the rules and regulations supplemental thereto, the interstate movement from the regulated area in the State of Florida of (1) fruits, vegetables, and garden and orchard products of all kinds, and cotton bolls and seed cotton; (2) sand, soil, earth, peat, compost, and manure; (3) railway cars, boats, and other vehicles and containers which have been or are being used in conveying fruits or vegetables; and (4) fruit-picking equipment, and all other articles, including nursery stock, which have been associated with the production of or commerce in fruits or vegetables or have been or are contaminated with sand, soil, earth, peat, compost, or manure. This quarantine also prohibits, except as provided in the rules and regulations supplemental thereto, the reshipment or transportation from any other State or Territory or the District of Columbia of the articles enumerated originating in and moving from the regulated area in the State of Florida.

FOREIGN QUARANTINES

Potatoes.—Quarantine No. 3: Forbids the importation of potatoes from Newfoundland: the islands of St. Pierre and Miquelon; Great Britain, including England, Scotland, Wales, and Ireland; Germany; and Austria-Hungary, on account of the disease known as potato wart (*Synchytrium endobioticum*).

Mexican fruits.—Quarantine No. 5, as amended: Forbids the importation of oranges, sweet limes, grapefruit, mangoes, achras sapotes, peaches, guavas, and plums from the Republic of Mexico, on account of the Mexican fruit fly (*Trypeta ludens*).

White-pine blister rust.—Quarantine No. 7, as amended: Forbids the importation from each and every country of Europe and Asia, and from the Dominion of Canada and Newfoundland, of all fiveleaf pines and all species and varieties of the genera *Ribes* and *Grossularia*.

Pink bollworm.—Quarantine No. 8, as amended: Forbids the importation from any foreign locality and country, excepting only the locality of the Imperial Valley, in the State of Lower California, Mexico, of cottonseed (including seed cotton) of all species and varieties, and cottonseed hulls. Seed cotton, cottonseed, and cottonseed hulls from the Imperial Valley may be entered under permit and regulation.

Seeds of avocado or alligator pear.—Quarantine No. 12: Forbids the importation from Mexico and the countries of Central America of the seed of the avocado or alligator pear on account of the avocado weevil (*Heilipus lauri*).

Sugarcane.—Quarantine No. 15: Forbids the importation from all foreign countries of living canes of sugarcane, or cuttings or parts thereof, on account of certain injurious insects and fungous diseases. There are no Federal restrictions on the entry of such materials into Hawaii and Porto Rico.

Citrus nursery stock.—Quarantine No. 19: Forbids the importation from all foreign localities and countries of all citrus nursery stock, including buds, scions, and seeds, on account of the citrus canker and other dangerous citrus diseases. The term "citrus," as used in this quarantine, includes all plants belonging to the subfamily or tribe *Citrateae*.

European pines.—Quarantine No. 20: Forbids, on account of the European pine-shoot moth (*Evetria buoliana*), the importation from all European countries and localities of all pines not already excluded by Quarantine No. 7.

Indian corn or maize and related plants.—Quarantine No. 24, as amended: Forbids the importation from southeastern Asia (including India, Siam, Indo-China, and China), Malayan Archipelago, Australia, New Zealand, Oceania, Philippine Islands, Formosa, Japan, and adjacent islands, in the raw or unmanufactured state, of seed and all other portions of Indian corn or maize (*Zea mays* L.) and the closely related plants, including all species of *Teosinte* (*Euchlaena*), *Job's-tears* (*Coix*), *Polytoa*, *Chionachne*, and *Sclerachne*, on account of the downy mildews and *Physoderma* diseases of Indian corn, except that Indian corn or maize may be imported under permit and upon compliance with the conditions prescribed in the regulations of the Secretary of Agriculture.

Citrus fruits.—Quarantine No. 28: Forbids the importation from eastern and southeastern Asia (including India, Siam, Indo-China, and China), the Malayan Archipelago, the Philippine Islands, Oceania (except Australia, Tasmania, and New Zealand), Japan (including Formosa and other islands adjacent to Japan), and the Union of South Africa, of all species and varieties of citrus fruits, on account of the citrus canker, except that oranges of the mandarin class (including satsuma and tangerine varieties) may be imported under permit and upon compliance with the conditions prescribed in the regulations of the Secretary of Agriculture.

Sweetpotato and yam.—Quarantine No. 29: Forbids the importation for any purpose of any variety of sweetpotatoes and yams (*Ipomoea batatas* and *Dioscorea* spp.) from all foreign countries and localities, on account of the sweetpotato weevils (*Cylas* spp.) and the sweetpotato scarabee (*Euscepes batatae*).

Banana plants.—Quarantine No. 31: Forbids the importation for any purpose of any species or variety of banana plants (*Musa* spp.), or portions thereof, from all foreign countries and localities, on account of the banana-root borer (*Cosmopolites sordidus*). This quarantine places no restrictions on the importation of the fruit of the banana. (For restrictions on the entry of the fruit of the banana, see Quarantine 56.)

Bamboo.—Quarantine No. 34: Forbids the importation for any purpose of any variety of bamboo seed, plants, or cuttings thereof capable of propagation, including all genera and species of the tribe *Bambuseae*, from all foreign countries and localities, on account of dangerous plant diseases, including the bamboo smut (*Ustilago shiraiana*). This quarantine order does not apply to bamboo timber consisting of the mature dried culms or canes which are imported for fishing rods, furniture making, or other purposes, or to any kind of article manufactured from bamboo, or to bamboo shoots cooked or otherwise preserved.

Nursery stock, plants, and seeds.—Quarantine No. 37: Forbids, except as provided in the regulations supplemental thereto, the importation of nursery

stock and other plants and seeds from all foreign countries and localities on account of certain injurious insects and fungous diseases. Under this quarantine the following plant products and seeds may be imported without restriction when free from sand, soil, or earth, unless covered by special quarantine or other restrictive orders: Plant products capable of propagation, imported for medicinal, food, or manufacturing purposes, and field, vegetable, and flower seeds. Cut flowers from the Dominion of Canada are also allowed entry without permit. The entry of the following nursery stock and other plants and seeds is permitted under permit:

(1) Bulbs of the following genera: *Lilium* (lily), *Convallaria* (lily of the valley), *Hyacinthus* (hyacinth), *Tulipa* (tulip), and *Crocus*; and, until further notice, *Chionodoxa* (glory-of-the-snow), *Galanthus* (snowdrop), *Scilla* (squill), *Fritillaria imperialis* (crown imperial), *F. meleagris* (guinea-hen flower), *Muscari* (grape hyacinth), *Ixia*, and *Eranthis* (winter aconite).

(2) Stocks, cuttings, scions, and buds of fruits for propagation; except that stocks of apple, pear, quince, and Mazzard cherry may not be imported under permit or otherwise after June 30, 1930. Other fruit stocks, including Mahaleb cherry and Myrobalan plum, may not be imported under permit or otherwise after June 30, 1931.

(3) Rose stocks for propagation, including Manetti, Multiflora, Brier Rose, and Rosa Rugosa.

(4) Nuts, including palm seeds for propagation.

(5) Seeds of fruit, forest, ornamental, and shade trees; seeds of deciduous and evergreen ornamental shrubs; and seeds of hardy perennial plants; except that mango seeds may not be imported under permit or otherwise.

Provision is also made for the issuance of special permits under safeguards to be prescribed in such permits for the entry in limited quantities of nursery stock and other plants and seeds not covered in the preceding lists for the purpose of keeping the country supplied with new varieties and necessary propagating stock.

European corn borer.—Quarantine No. 41, revised: Forbids, except as provided in the rules and regulations supplemental thereto, the importation from all foreign countries and localities of the stalk and all other parts, whether used for packing or other purposes, in the raw or unmanufactured state, of Indian corn or maize, broomcorn, sweet sorghums, grain sorghums, Sudan grass, Johnson grass, sugarcane, pearl millet, napier grass, teosinte, and Job's-tears, on account of the European corn borer (*Pyrausta nubilalis*) and other dangerous insects and plant diseases.

Stocks, cuttings, scions, and buds of fruits.—Quarantine No. 44: Forbids, except as provided in the rules and regulations supplemental thereto, the importation of stocks, cuttings, scions, and buds of fruits from Asia, Japan, Philippine Islands, and Oceania (including Australia and New Zealand), on account of dangerous plant diseases, including Japanese apple cankers, blister blight, and rusts, and injurious insect pests, including the oriental fruit moth, the pear fruit borer, the apple moth, etc.

Seed or paddy rice.—Quarantine No. 55: Forbids, except from the Republic of Mexico upon compliance with the conditions prescribed in the rules and regulations supplemental thereto, the importation of seed or paddy rice from all foreign countries and localities, on account of injurious fungous diseases of rice, including downy mildew (*Sclerospora macrocarpa*), leaf smut (*Entyloma oryzae*), blight (*Oospora oryzae*), and glume blotch (*Melanomma glumarum*), as well as dangerous insect pests.

Fruits and vegetables.—Quarantine No. 56, as amended: Forbids, except as provided in the rules and regulations supplemental thereto, the importation of fruits and vegetables not already the subject of special quarantines or other restrictive orders, and of plants or portions of plants used as packing material in connection with shipments of such fruits and vegetables from all foreign countries and localities other than the Dominion of Canada, on account of injurious insects, including fruit and melon flies (Trypetidae). Includes and supersedes Quarantine No. 49 on account of the citrus black fly.

Flag smut.—Quarantine No. 59: Forbids the importation of all species and varieties of wheat (*Triticum* spp.) and wheat products, unless so milled or so processed as to have destroyed all flag-smut spores, from India, Japan, China, Australia, Union of South Africa, Italy, and Spain.

OTHER RESTRICTIVE ORDERS

The regulation of the entry of nursery stock from foreign countries into the United States was specifically provided for in the plant quarantine act. The act further provides for the similar regulation of any other class of plants or plant products when the need therefor shall be determined. The entry of the plants and plant products listed below has been brought under such regulation:

Nursery stock.—The conditions governing the entry of nursery stock and other plants and seeds from all foreign countries and localities are indicated above under "Foreign quarantines." (See Quarantine No. 37, revised.)

Potatoes.—The importation of potatoes is forbidden altogether from the countries enumerated in the potato quarantine. Potatoes may be admitted from other foreign countries under permit and in accordance with the provisions of the regulations issued under order of December 22, 1913, bringing the entry of potatoes under restriction on account of injurious potato diseases and insect pests. Importation of potatoes is now authorized from the following countries: The Dominion of Canada, Bermuda, and Cuba; also from the States of Chihuahua and Sonora and the Imperial Valley of Lower California, Mexico. The regulations issued under this order have been amended so as to permit, free of any restrictions whatsoever under the plant quarantine act, the importation of potatoes from any foreign country into the Territories of Porto Rico and Hawaii for local use only and from the Dominion of Canada into the United States or any of its Territories or Districts.

Avocado, or alligator pear.—The order of February 27, 1914, and the regulations issued thereunder restrict the importation from Mexico and the countries of Central America of the fruits of the avocado, or alligator pear, on account of the avocado weevil. Entry is permitted through the port of New York only, and is limited to the large, thick-skinned variety of the avocado. The importation of the small, purple, thin-skinned variety of the fruit of the avocado and of avocado nursery stock under 18 months of age is forbidden.

Cotton.—The order of April 27, 1915, and the regulations issued thereunder restrict the importation of cotton from all foreign countries and localities, on account of injurious insects, including the pink bollworm. These regulations apply in part to cotton grown in and imported from the Imperial Valley, in the State of Lower California, Mexico.

Cottonseed products.—The order of June 23, 1917, and the regulations issued thereunder restrict the importation of cottonseed cake, meal, and all other cottonseed products, except oil, from all foreign countries, and a second order of June 23, 1917, and the regulations issued thereunder restrict the importation of cottonseed oil from Mexico on account of injurious insects, including the pink bollworm.

Rules and regulations governing (1) entry for immediate export, (2) entry for immediate transportation and exportation in bond, and (3) safeguarding the arrival at a port where entry or landing is not intended of prohibited plants and plant products.—These rules and regulations, as revised August 1, 1920, govern the unloading and transfer of cargoes and transportation in bond when it is determined that such entry can be made without involving risk to the plant cultures of the United States, and also provide for the safeguarding at a port or within the territorial waters of the United States where entry or landing is not intended of any prohibited or restricted plants and plant products.

Rules and regulations governing the movement of plants and plant products into and out of the District of Columbia.—These rules and regulations were promulgated August 26, 1920, under the amendment to the plant quarantine act of May 31 of that year and were revised March 29, 1929. They provide for the regulation of the movement of plants and plant products, including nursery stock, from or into the District of Columbia and for the control of injurious plant diseases and insect pests within the said District.

MISCELLANEOUS REGULATIONS

Rules and regulations prohibiting the movement of cotton and cottonseed from Mexico into the United States, and governing the entry into the United States of railway cars and other vehicles, freight, express, baggage, or other materials from Mexico at border points.—These rules and regulations, promulgated June 23, 1917, pursuant to authority given in the appropriation act for the United States Department of Agriculture for the fiscal year 1918, and since repeated annually, are designed to prevent the entry of the pink bollworm of

cotton which is known to exist widely in Mexico. They provide for the examination of passengers' baggage, for the disinfection of railway cars, freight, express, and other shipments, and for the cleaning of domestic cars handling Mexican freight. All fees collected for cleaning and disinfecting railway cars are deposited in the United States Treasury as miscellaneous receipts.

The inspectors concerned in the enforcement of these regulations at border points are charged also with enforcement of restrictions on the entry of plants and plant products under various foreign plant quarantines.

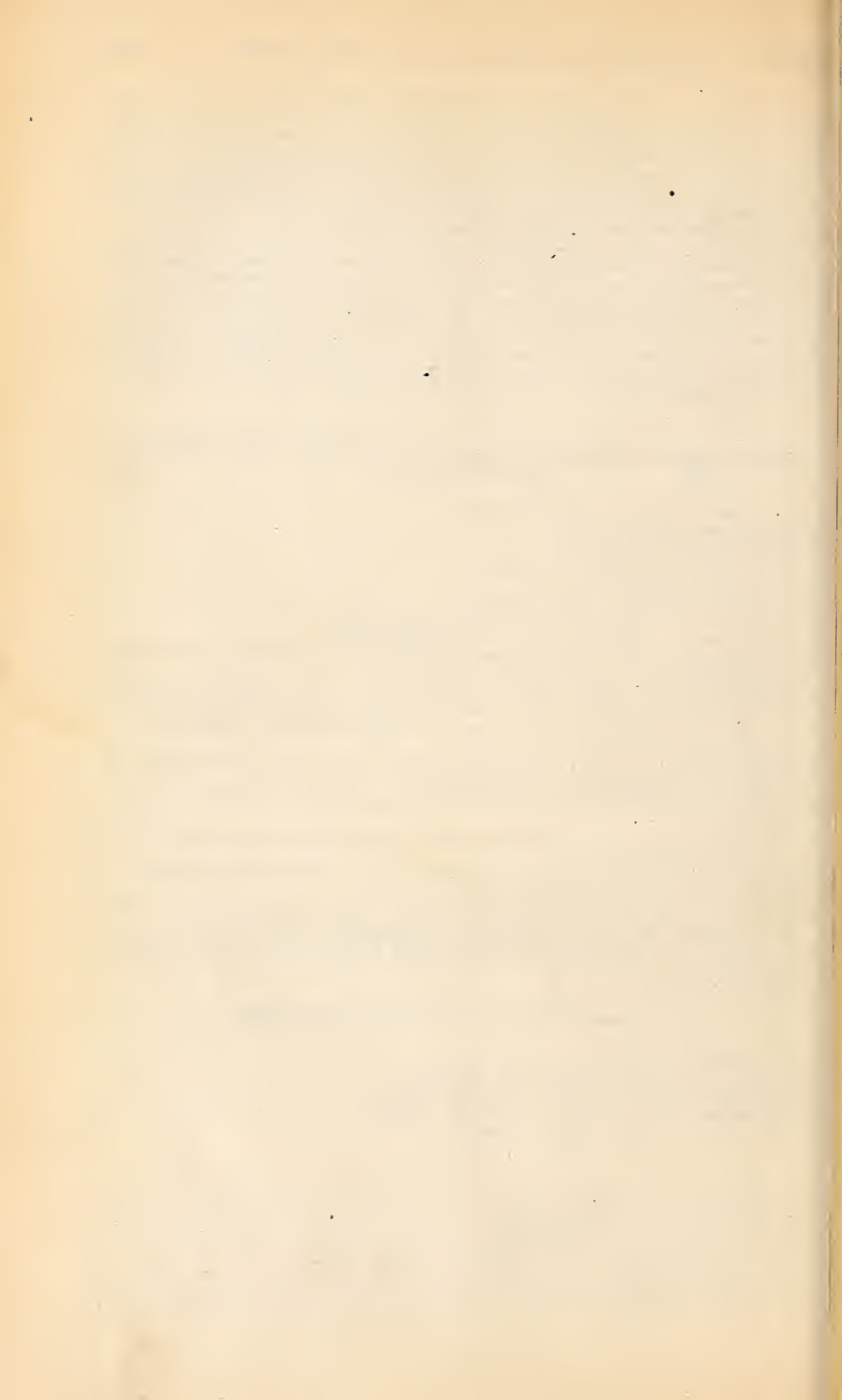
Rules and regulations of the Secretary of Agriculture governing the inspection and certification of plants and plant products offered for export to meet the sanitary requirements of foreign countries.—These rules and regulations were promulgated August 9, 1926, pursuant to authority given in the appropriation act for the United States Department of Agriculture for the fiscal year 1927. They provide for the inspection and certification of fruits, vegetables, nursery stock, and other plants and plant products intended for export to countries requiring such certification. All fees collected for this service are deposited in the United States Treasury as miscellaneous receipts.

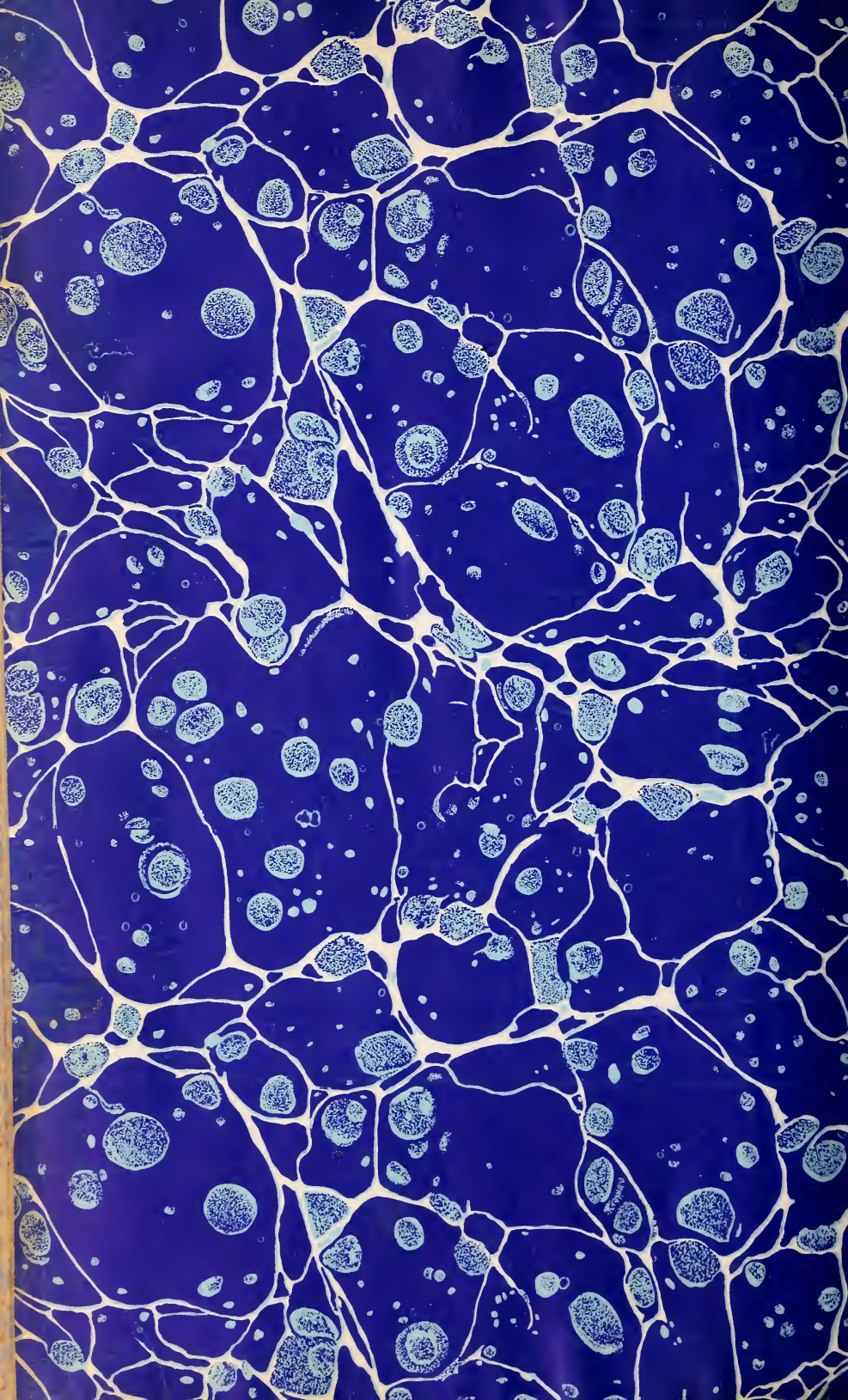
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